



JOHN JONES
OF WAIKOUMTI

*From the portrait in
Early Settlers' Hall, Dunedin*

Photo, G. A. Binz.



SIR JAMES HECTOR

Photo, G. A. Binz.

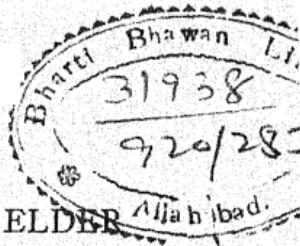
THE
PIONEER EXPLORERS
OF NEW ZEALAND

BY

JOHN RAWSON ELDER

M.A., D.Litt.(Abdn.)

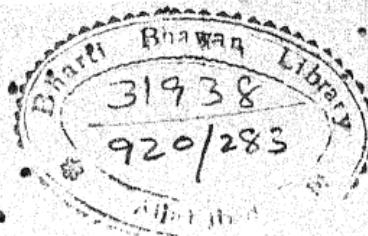
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Preface

Much has already been written with regard to the difficulties and trials surmounted by the early settlers in New Zealand. But little is known, even in New Zealand itself, of the work of the surveyors and explorers who blazed the trail for the settlers, revealing to them the natural features and general characteristics of the interior of the country. The explorers themselves reaped no reward from their efforts beyond the satisfaction derived from the successful accomplishment of the duty which they had undertaken, and there is therefore the more reason why the story of their work should be rescued from the Government Reports, private diaries, and early Colonial newspapers in which it has lain buried.

In my endeavour to relate, in broad outline, the work of those who did so much to open up New Zealand for settlement, I have made much use of the materials to be found in the Hocken Library, Dunedin, and would acknowledge my

thanks to Professor Benham, Curator, and Mrs. Macdonald, Librarian.

Professor Hight, Rector of Canterbury College, brought to my notice various diaries of early pioneers which proved of great value, while Professor James Park, of Otago University, gave me the benefit both of his own experience in exploration and survey work and of his intimate knowledge of many of those of whom I have written. To both of these gentlemen I am greatly indebted.

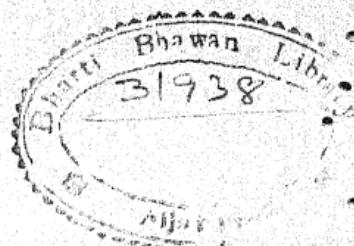
I have also to thank Miss Percy Smith, Dr. C. Monro Hector, Professor Benson, and the Committee of the Early Settlers' Association for assistance.

Mr. James Thomson, M.A., B.Sc., Head of the Mathematics Department, Robert Gordon's College, Aberdeen, read the proofs of this book for me, while Mr. Robert Donn, Lecturer in Art in the Training Centre for Teachers, Dunedin, drew the maps which illustrate the text. Their aid has been invaluable.

JOHN RAWSON ELDER.

THE HISTORY DEPARTMENT
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NEW ZEALAND

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THE PIONEER EXPLORERS OF NEW ZEALAND

CHAPTER I

The Old Whalers and Pakeha-Maoris

After the epoch-making rediscovery of New Zealand by Captain Cook in 1769, and the tragic murder in 1772, at the hands of the cannibal Maoris, of Marion du Fresne—a French navigator who, eager to win laurels as an explorer, had followed the English sailor into the South Seas—New Zealand was almost forgotten by the civilized world for well-nigh thirty years. When, however, the first Australian convict settlement was established at Sydney in 1788, the traders in the Pacific were given a base from which to operate and, within a few years, began to send their vessels to New Zealand to barter with the Maoris for the flax and timber of which Cook had written so enthusiastically. These pioneer traders had to

face many constant difficulties and frequent dangers, for the friendliness of the Maoris could not be relied upon; they continued their visits to New Zealand, however, and, by the beginning of the nineteenth century, had established a regular trade in timber and flax.

During the last years of the eighteenth century, whalers and sealers also began to pursue their calling off the New Zealand coasts, making the Bay of Islands their chief base for supplies, since they found that the Maoris of that district were eager to supply them with provisions in return for manufactured articles. The indiscriminate slaughter of the seals ended the New Zealand sealing industry well within the first quarter of the nineteenth century. The whaling industry, however, was maintained in a fairly prosperous condition until about 1840, when the growing scarcity of whales caused it to decline. Kororareka, at the Bay of Islands, the first white settlement in New Zealand, had its origin in the periodic visits of these early whalers.

It has to be remembered that, at the time of the establishment of the Kororareka settlement in the early years of the nineteenth century, New Zealand, although nominally under the jurisdiction of the Governor of New South Wales, was a "no man's land", a veritable Alsatia of the south, where men lived beyond the pale of the law. From time to time the Governor of New South Wales issued proclamations directed particularly against such practices as were likely to

cause war between the Maoris and the white traders and whalers. The nefarious traffic in dried Maori heads, which were valued highly for their tattooing, was vigorously denounced, and measures were taken to ensure the reasonably good treatment of such Maoris as occasionally enrolled themselves as members of whaling crews. While flagrant crime was thus dealt with, minor acts of violence and lawlessness went unpunished, and the periodic visits of the whalers to Kororareka became occasions of orgies debasing to white man and Maori alike. A few white men, usually deserting sailors, or convicts who had escaped from the Australian settlements, and who were naturally anxious to retire as far as possible from civilization, made themselves useful to the Maoris as agents in their trading transactions with visiting vessels and lived among them as *pakeha-maoris*.

There are a few examples of such men who were attracted to the primitive life among the Maoris by the novelty of the experience, and the opportunity it gave for wild adventures in a land the interior of which was unknown to white men. Taking an intelligent interest in native habits and customs, and gaining the confidence of the chiefs by straight dealing, such men gained great influence with the natives and, when the days of British sovereignty came in 1840, were invaluable to the British administrators owing to their knowledge of the language and land-laws of the Maoris. Such types, however, were rare. The majority of *pakeha-maoris* were ignorant renegade whites who

frequently held lower standards of conduct and of morality than the savages among whom they dwelt. Their chief business was to procure from the white trader a supply of gunpowder and muskets to be used in the fierce inter-tribal warfare which was waged almost without ceasing among the New Zealanders. The victor in these struggles showed little mercy to the captives, and every battle was made the occasion of a cannibal feast. The white men who lived amid such scenes of degradation were apt to become as much barbarians as the Maoris themselves, although it is to be conceded that those Europeans who were admitted to the friendship of the natives were men who excelled in the savage virtues of bravery and loyalty to the tribe. To gain the esteem of the Maoris was impossible for any man who lacked courage, and with all their faults, the old-time whalers and *pakeha-maoris* stood out among men in this respect.

About 1830 a new type of whaling began in New Zealand which brought the whalers into more permanent contact with the Maoris. Up till that time the sperm whale had been hunted by sea-going whalers. It had been discovered, however, that the "right" or black whale visited the New Zealand coasts every year from April to September, and whaling stations were therefore established at many points round the coasts of both the North and South Islands, but particularly at Cook Strait, Banks' Peninsula, Otago Peninsula, and Foveaux Strait. From the shore stations

boats were sent out whenever a whale was sighted, the captured monster being towed ashore for the work of cutting up and extracting the oil and whalebone. The centre of the industry was Sydney, where the whalers were enrolled for the season, which began usually in April and ended in October. From that port the storeship set out at the beginning of each season laden with supplies for the whaling stations, and with trade goods which the whalers bartered with the natives for necessary provisions.

The industry was a very profitable one for the Sydney merchants so long as whales were plentiful. The men engaged in the work of whaling received a commission upon the amount of oil secured. The merchant took the oil at his own price, paying the whalers not in money, but in spirits and in goods upon which he placed a price far above that current in Sydney. He thus made a profit at every stage of the transaction. The fact that the whalers chose to be paid to such an extent in rum, which was generally of very inferior quality, led to an annual carouse upon the arrival of the storeship, which ended only when the men were refused further credit. The beginning of the whaling season thus saw the men in a penniless condition, and already in debt to the Sydney merchant. As the season proceeded they pledged their credit to him from time to time in order to secure the necessities of life, with the result that many were never out of debt, and were compelled to be permanent residents at the

whaling station where alone they could obtain goods on credit. Even to communicate by letter with their friends outside New Zealand was difficult, since their employers were so anxious that no information with regard to the state of the whaling industry should be communicated to possible rivals in Sydney, that most letters were destroyed before the storeship reached the home port.

Chiefly owing to their own habits many of the old-time whalers, therefore, were compelled to regard the whaling station as their permanent home, and settled down in New Zealand with their Maori wives and half-caste children. For a great part of the year they were occupied in whaling, but, to some extent, they utilized the months which were not devoted to that strenuous occupation in farming, marked, of need, by primitive methods. The Maoris of the district were glad to have a permanent settlement of white men near them, since tobacco and other coveted articles of European manufacture could thus be readily obtained in return for foodstuffs, and generally there was little friction between the whalers and the natives. The whaler taught his native wife something of European methods of housekeeping and standards of life, and thus introduced a knowledge of many of the simple arts and crafts of domestic life of which the Maoris had hitherto been ignorant.

About the time of the proclamation of British sovereignty in New Zealand, whales began to be so scarce that the majority of the Sydney mer-

chants who had till now provided the capital for the shore whaling industry, retired from it, leaving the whaling stations in the hands of resident proprietors, who, since the employees were no longer cut off from communication with other Europeans, nor dependent upon their masters for supplies of food and clothing, dealt more justly with them, in this way releasing them from the degrading conditions under which they had formerly laboured. These changed conditions, however, did not obtain long before almost all the shore stations were abandoned owing to the scarcity of whales, which had been slaughtered without discrimination and without thought for the future. Few whaling stations remained after 1850, and only in Cook Strait and at Whangamumu is the old occupation of bay whaling now pursued. As the industry gradually died out the old whalers naturally turned, for the most part, to land settlement, and became pioneer settlers whose intimate knowledge of the Maoris was of great value to those who followed them to New Zealand. The best of the old-time whalers were men of great influence with the Maoris, who respected and feared them on account of their vigour and courage, and were prepared to follow their advice when negotiations with regard to the sale of tribal lands to the incoming white men had to be considered, since they believed that the whalers who had lived among them, and whose wives were Maori women, had a genuine regard for the interests of their native friends.

The modern New Zealand shore whaler hunts his quarry in a swift motor-launch equipped with harpoon-gun of deadly precision. The old-time whaling boat was from twenty to thirty feet long, and carried usually from six to nine men including the "headsman", whose place was at the twenty-foot long steer oar in the stern of the boat. The boat-steerer was stationed at the oar nearest the bow of the boat during the chase, but took the place of the headsman at the steering-oar when the latter moved to the bow to harpoon the whale. The barbed harpoon had an iron head fixed to a wooden shaft and was about five feet long. A stout line of some two hundred fathoms in length, fastened to the handle of the harpoon, lay coiled in two tubs in the middle of the boat. The boats were equipped with mast and sail which could be used at will. To ensure the capture of a whale once it had been sighted it was necessary for the boats to scatter over a wide area of sea, and thus the whaling party of six or eight boats sailed in different directions while they watched for the signal of the lookout man, stationed on some commanding point on shore, who indicated to them the direction in which he had last seen the whale spout. It was for the headsman to bring his skill and experience to bear in deciding where the whale was most likely to come next to the surface. As the whale broke water the headsman hurled his harpoon and made fast to the quarry, at the same time urging his men to back away from the furious lashing of the monster's tail. In another

moment the whale sounded and dashed off, pulling the boat in its wake. Soon it came to the surface again for air, to find that its enemies had gathered in force to dispatch it with harpoon and lance, and afterwards to assist in the arduous task of towing the carcass to the shore, where all took part in the final work of cutting out the blubber, making great fires under the "try pots", and pouring the oil into casks.

The work was difficult and often dangerous, but in successful seasons yielded a good return to those prepared to risk life and limb. The unhappy orgies, however, which had grown up around the industry, diverted all profits from the whaler to the owner of the station, who, in practice, secured the whole product of the fishery in return for a quantity of inferior rum.

About 1840 the most successful whaling station was that of Waikouaiti, which is now a small village on the south-east coast of the South Island, some thirty-two miles to the north of Dunedin. The proprietor of the Waikouaiti station was the famous "Johnny" Jones whose name has become almost legendary in the story of early New Zealand. A native of New South Wales, where he was born in 1809, Johnny Jones had in early life been first a sealer about Foveaux Strait, and then a waterman at Sydney. With a natural instinct for money-making he increased his capital so rapidly that, at the age of twenty-five, he was able to enter the New Zealand bay whaling industry, becoming part owner of a

station at Preservation Inlet in the south-west of the South Island. In another year he had purchased the schooner *Sydney Packet* for £800, and fitted her out as general supply vessel for his whaling venture. Success encouraged him to go forward, and in the end of the year 1835 he bought the whaling station at Waikouaiti, with boats, huts, stores, and all the gear, the price given in auction at Sydney, according to Jones's contemporary in New Zealand, Dr. Shortland, being the extremely low one of £225.

In five years more Jones had prospered greatly, and had nearly three hundred men in his employment in the seven whaling stations which he owned in southern New Zealand. Shipowner, whaler, and general merchant, he had also become a land proprietor. His natural shrewdness had enabled him to see that the proclamation of British sovereignty in New Zealand could not be long delayed, when New Zealand land must increase enormously in value. He set himself, therefore, to buy land in the Waikouaiti district from the native chiefs, and claimed that between 1838 and 1840 he had purchased from the Maoris a tract of country at least 20,000 acres in extent, stretching far inland from the coast.

For this land he stated that he had paid the Maoris nearly £4000. The natives were paid for the most part in goods, prominent in the detailed lists being articles of clothing, blankets, sealing-boats, tobacco, muskets, and gin—all valued naturally at Jones's own price. With the pro-



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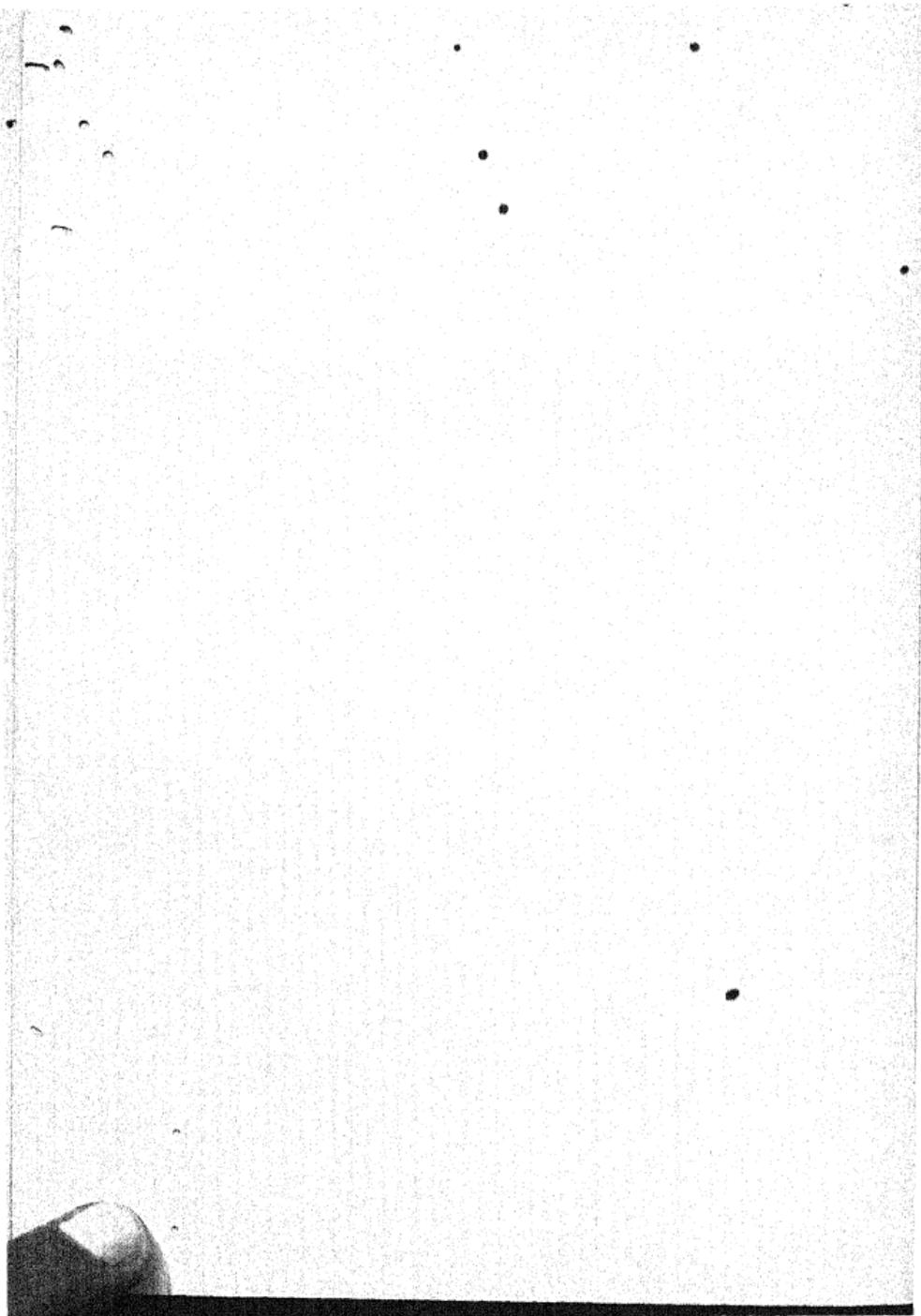
Photo, G. A. Bunz.



JAMES MCKERROW

*From the portrait in
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Photo, G. A. Bunz.



clamation of British sovereignty in 1840, all such land purchases had to be submitted to Government commissioners for settlement. In 1843 the commissioners allowed Jones's claim to 2560 acres, the highest possible award as the law stood at the time. Jones, however, refused to be satisfied with this award and kept urging his case until in 1867, two years before his death, he was allowed to select 8500 acres from such lands in the province of Otago as had not been sold. He thus emerged from the long struggle as the recognized proprietor of about 11,000 acres, having been successful in retaining practically half of the lands which he claimed.

It has to be conceded that Jones risked much in his New Zealand venture, and that his foresight and enterprise deserved some reward. Before British sovereignty was proclaimed he had already added agriculture after the European fashion to the industries of Waikouaiti. Horses, cattle, and sheep had been imported from Sydney, and a small portion of his land had been placed under cultivation, the primary object being to supply the whaling stations with provisions from the proprietor's own farm. To carry out the plan, agricultural labourers were necessary, and these Jones secured in New South Wales in several families from southern England and Wales who had emigrated to Australia, but who were tempted to move onward to New Zealand by the prospect of settlement in a country where the climate resembled more that which they had left. Jones

offered each settler £35 a year with maintenance and a free gift of sixty acres of land after two years. In February, 1840, eleven English families, thirty-two persons in all, sailed from Sydney to Waikouaiti in the *Magnet*, reaching their destination after a three weeks' voyage.

Jones's enterprise thus brought the first immigrants to Otago eight years before the arrival of the *John Wickliffe* and *Philip Laing* at Port Chalmers with the pioneer settlers of the Scottish Otago Association, and three months before the proclamation of British sovereignty in New Zealand.

These first pioneers of the *Magnet* had to face many difficulties. Each family lived in a house constructed after the Maori fashion of a framework of logs covered with rushes, tied together in bundles with flax. Until the land had been brought under cultivation the settlers depended to a great extent upon Sydney for food supplies, and as Jones's storeships arrived at irregular intervals, there were long months when even such a commodity as flour could not be obtained at Waikouaiti, while tea and sugar were unknown luxuries. Wild pigs, ducks, pigeons, fish, and potatoes were to be had in abundance, however, and the Maori was always willing to barter his products for European articles, while the resident whalers helped the new arrivals as best they could.

In August, 1843, Jones himself settled at Waikouaiti with his family, to rule from his farm

at Matanaka, like an old-time feudal lord, over the mixed population of whalers, agriculturists, and Maoris who lived on his lands. It was impossible to stand out against this uncrowned king and remain in the settlement, and there were those among the sturdy English and Welsh settlers who, when they found conditions unbearable, had sufficient courage to break away from the service of this arbitrary employer and face the unknown either in other whaling settlements on the coast or among the Maoris. Their places at Waikouaiti were filled by fresh importations from Sydney.

The situation was such as might easily have led a better educated man with more self-control into ways of tyranny. His wealth had made the settlement, and its continued success depended upon his interest in it. He owned both farm and whaling station; the very ships which brought necessary stores and maintained communication with the outside world were his. Knowing these things he could not brook resistance to his will, and was apt in dealing with his employees to follow the rough ways of the sealers among whom he had lived in his youth, and follow up the angry word with a blow. A man of average height, broad-shouldered and stout in appearance, he carried himself with the manner of the prosperous individual who is accustomed to obedience. A contemporary biographer, the Rev. Mr. Christie, who knew him well, writes of him: "His face may be described as square, broad rather than

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long, corresponding to the Dutch frame on which it was set, countenance stern, grim when in repose, but when animated, his eye possessed a singular impressiveness. The deep jaw and firm step indicated a man of fesolute purpose. Those who had dealings with him encountered a shrewd, if not a sharp, man of business. He was cautious in a way, yet venturous in speculation, occasionally reckless, but a maker of money. He possessed a good memory for arithmetical details, with rough notions of justice and honour, could assume manliness at times and was strictly temperate and regular in his personal habits. He was not by any means unkind—he was even generous after a fashion; indulgent to his family but the victim of an unruly temper. . . . He was a compound of sense, angry passion, conscious ability, iron nerve, self-will, and physical strength. . . . Having made his way in the world by force rather than by sympathy, he did not secure the highest place in the affections of men. He stood much alone, self-contained. If his career in the search for riches was a success, in many other respects it was a failure. As a parent he was provident, and to domestics, just and liberal. He was faithful, trustworthy, and punctual in everyday affairs, but his life to an observer presented a mixture of capricious energy, worldly prudence, and an impatience before the tempest of his own passionate nature."

Jones, in short, stands out, a lonely epic figure, eminently characteristic of the transition period

which marked the passing of the old whaling days and the advent of the regular settler.

The arrival at Dunedin in 1848 of Captain Cargill and his company of Scottish settlers, although for a time it served to increase the importance of Johnny Jones, since he controlled all markets in the new settlement, and sold or withheld supplies of meat and vegetables according to his whim, in reality marked the end of his rule and of the state of affairs for which he had stood. He had already met sturdy opponents at Waikouaiti in the missionaries Watkin and Creed, who spoke out strenuously against his demand for Sunday labour from his employees, and denounced the supplying of drink to the Maoris of Waikouaiti. Jones had himself encouraged and aided the foundation in 1840 of the Wesleyan mission at Waikouaiti, being curiously blind, apparently, to the fact that it must be the work of the missionary to endeavour to end many of the practices which had hitherto prevailed under his absolute régime. The new Otago settlement brought an influence to New Zealand which strengthened the forces making for righteousness. Men of education and character, many with capital, had come to Dunedin intent upon founding a colony which should not be lacking in the principles that encourage morality and respect for religious observance. In the new colony, moreover, those who were dissatisfied with conditions at Waikouaiti could now find a place of refuge. To retain his employees Jones had of necessity to moderate his ways. As the

population of Dunedin increased, and particularly when the gold rush of the early sixties brought along with it many shrewd business men intent upon entering into the general trade of Otago, Jones felt more and more that he was living in a new era, and that he had little in common with those with whom he was now thrown into competition. He had taken up his residence in Dunedin in 1855, and could thus observe the rapid change that was removing the world he had known. A new order had risen in which he had no place. A somewhat melancholy figure, he survived till March, 1869, when he died at the age of sixty.

Johnny Jones served his day and generation after his own rude fashion. He must always remain a figure of extraordinary interest to the colonists of southern New Zealand, as one whose whole life and character are typical of the rough pioneering days in which he lived.

CHAPTER II

Missionary Pioneers and Explorers

At the Bay of Islands, on Christmas Day, 1814, the Rev. Samuel Marsden preached the first sermon delivered to the Maoris, his discourse being afterwards explained to the natives by the chief Duaterra, and thus began the work of the Church Missionary Society in New Zealand. Marsden, an Anglican clergyman, held the appointment of principal chaplain to the penal settlement of New South Wales, of which at that time New Zealand was an outlying parish, and thus, though deeply interested in mission work in New Zealand, was not himself a missionary. From time to time, however, he obtained leave of absence to visit New Zealand, where he occupied himself not only in visiting the newly established mission stations, but also in exploring the country and in obtaining first-hand knowledge of the Maoris, for whom he always had a warm affection.

Marsden visited New Zealand seven times, his longest stay being made on his third voyage when he remained some ten months in the country. It is to be remembered that the voyage in small

sailing vessels over the tempestuous waters of the Tasman Sea occupied usually a fortnight, and frequently involved considerable hardship. As his vessel the *Brampton* left the New Zealand coast in September, 1823, upon the conclusion of his fourth visit, she struck on some sunken rocks and was wrecked; by good fortune all on board succeeded in escaping to a small island. Such incidents had no effect upon the indomitable spirit of Marsden, with whom, to the end of his life, the welfare of the New Zealand mission was a ruling passion.

Samuel Marsden made his seventh and last voyage to New Zealand in 1837, when he was already seventy-three years of age and in failing health. Such was the spirit of the man, however, that, though so feeble that he had to be carried by natives in a hammock, he determined to travel from Hokianga, where he originally landed, to the mouth of the Thames, a distance of two hundred miles. He accomplished his purpose, and found his reward in the joy evinced by both Maoris and missionaries at seeing him. "I wished to visit all the stations," he wrote to a friend, "but the stormy weather was against me. I visited at the Thames and some of the missionaries there. From the Thames I proceeded to Cloudy Bay and Cook Strait. I would have landed at the different stations of the east side to the south of the Thames, but could not. The weather was very stormy; . . . when I visited the North Cape, I found that mission in a very prosperous state. The place was

becoming in every respect like a European settlement, the natives working as sawyers, carpenters, &c." As he gazed upon that scene at the North Cape mission station the aged apostle must have reflected with pride and gratitude upon the change that had been effected in New Zealand in little more than twenty years as the result of the mission work which he had inaugurated. The last letter written by him to the Church Missionary Society shows that to the last his heart turned to the work of civilizing the Maoris of New Zealand. Writing in April, 1838, a fortnight before his death, he said: "I have wished for some time to pay another visit to New Zealand, but I have been very unwell, and not able to preach in my church and am still weak and feeble. My eyes are dim with age, being now upwards of seventy years old. It will be a great gratification to me to visit New Zealand once a year, as well as to the missionaries. . . . I have now been appointed as chaplain to N.S. Wales upwards of forty-five years, since the first day of January, 1793, and I now feel my strength perfect weakness. I am not able to preach in the church; my eyes are very dim; it is with difficulty I can read or write; you must therefore excuse my errors. I have an intention to visit the missionaries in New Zealand if my strength will permit." The indomitable spirit, to the end, refused to yield!

Although Marsden is remembered chiefly as the founder of the New Zealand mission, it should not be forgotten that he was the first European

to make a systematic and extensive exploration of the interior of the country, and to put a narrative of his travels on record. In 1814, when he first visited New Zealand, little more than the coastal regions were known to white men. Anxious to learn as much as possible both of the Maoris and of their country, Marsden in the course of his journeys gained a knowledge of a great part of the North Island. He never visited the South Island. Fearlessly he moved without European companions among the Maoris, travelling with native guides through wild bush country as he pushed up the various rivers whose course he had set himself to explore. "I was under no apprehension for my personal safety," he wrote, when giving an account of his first journey, "as I had never met with the smallest insult from any Maori." This is the more remarkable when one remembers that Marsden was moving among a people of whom he himself wrote thus: "The New Zealanders are all cannibals and appear to have no idea that it is an unnatural crime. When I expressed abhorrence at their eating one another they said it had always been customary to eat their enemies. I could not learn, however, that they ever eat human flesh merely to satisfy hunger or from choice, nor in cool blood, but solely from a spirit of retaliation and revenge for injuries sustained." Marsden was also careful to warn others that he who would travel among the Maoris must be at pains to conciliate them and to move with circumspection. "The New

Zealanders," he added, "will not be insulted with impunity, nor be treated as men without understanding, but will assuredly resent and revenge an injury as soon as opportunity permits."

While the majority of the missionaries who first settled in New Zealand confined themselves to their own stations, and learned little of the country outside their immediate environment, there were a few of more adventurous spirit who were worthy successors of Marsden as explorers of the unknown interior. Of these the most prominent were the Rev. Henry Williams who, in 1823, was placed in charge of the Church Missionary Society's station at Paihia, in the North Island, and the Rev. William Colenso, whose special task it was to translate and print in Maori the Scriptures and other works which were necessary for the mission.

Williams had been an officer in the Royal Navy, in which he had served during the Napoleonic wars; the taking of holy orders had not diminished his delight in adventure by sea and land. His journals thus tell of many hazardous expeditions, in the course of which he gained an intimate knowledge of the regions of the North Island served by the mission stations. He lived in troubled times and frequently made it his duty to endeavour to reconcile warring Maori tribes. On such occasions he showed himself so cool and unconcerned when under hostile fire that the Maoris, who did not know that he had been inured to warfare from boyhood, sometimes

declared him to have rendered himself bullet-proof by witchcraft. His biographer, Carleton, illustrates this by relating an incident which occurred upon the occasion of a raid made by the Ngapuhi upon the Ngatiawa. Williams with great courage had accompanied the Ngapuhi in the hope that he might bring about a reconciliation between the two tribes before bloodshed took place. "He was in the habit of passing from one party to the other—for the most part in his boat," writes Carleton. "A suspicion arose in the minds of the Ngatiawa that his boatmen were acting as spies, and they determined to put a stop to his visits. Waka Iwi ensconced himself with a gun, waiting the approach of the boat. The first shot he fired passed close. The boatmen were for pulling back again in haste, but Mr. Williams would not have it. 'In the King's service,' said he, 'no one turns back. We are now in the service of the King of Kings. Pull ahead.' Waka Iwi fired a second shot, and a third; still without effect. Some of his tribe then interfered, counselling him to leave off. 'Do you not know,' they said, 'that this man is an *atua* (a man of supernatural power)? If you go on, he will take up and cast back your bullets against us; we shall all be killed.'"

The Rev. William Colenso, afterwards Bishop Colenso, who was an enthusiastic botanist, engaged more definitely in the work of exploration than did Williams. In 1841-2 he undertook an exploration of the utmost importance which took

him to the Hot Lakes district in the very heart of the North Island. Thence he made his way in a canoe for one hundred and fifty miles down the Waikato River to the coast. In 1843 he followed up his previous work by penetrating through difficult forest country to the Ruahine mountain range. In these journeys he experienced the difficulties that confronted the traveller who sought to penetrate the mysteries of the New Zealand bush, where the only path usually led either along the banks of a stream or followed the bed of the stream itself. Writing of his first journey, Colenso says: "At first my route lay over high and steep hills, clothed with forests to their summits, which having gained, I descended to a deep valley where ran a rapid, brawling stream of from two to three feet in depth. By the banks of this river, among gigantic ferns and underwood, decaying logs, and fallen trees we travelled on, every now and then crossing the stream, which we certainly did more than fifty times. This was by no means pleasant travelling, but there was no alternative."

In writing of his expedition of 1843 to the Ruahine Range, he gives a further insight into the difficulties which the traveller had to surmount. "Several times, both yesterday and to-day," he narrates in his journal, "we were so dissatisfied with our course from being continually wet and very cold from the icy water, and without the rays of the sun in the deep narrow bed of the river—and also from the little progress we were

making in spite of all our continued efforts—that we tried to force our way through the thickets and bush growing on the river's banks but found that we could not get on that way, so had to take to the cold water again."

At another point he writes: "We were very tired and hungry, and sore with so much walking over boulders and stones in the bed of the river and with the incessant wading; 108 times did we wade in this day's march across the main stream; in some places the current was so strong and the water so deep that we could scarcely keep our footing; the water, too, in the upper portion of the river, was icy cold. . . . After my return from this journey, I suffered more than two months from sciatica brought on by these wadings in that icy water, bivouacking, and want of proper nourishment."

It is curious to note that Colenso found that the Maoris living in the upland regions which he traversed seemed almost insensible to cold. The majority of them wore only a single loose shoulder mat, and yet they either sauntered about the village in the snow, barefooted and barelegged, or sat down to talk in an open shed with scarcely any fire, having half of their bodies uncovered. "In this respect," Colenso observes, "they differ greatly from the New Zealanders of the lowlands who are mostly very impatient of cold."

In May, 1842, there arrived at Auckland the recently consecrated Bishop of New Zealand, George Augustus Selwyn, who became one of

the outstanding characters in the early history of New Zealand. Sincere, zealous for the faith, virile, and full of energy, the Bishop began his career in New Zealand with a series of journeys of visitation which gave him a first-hand acquaintance not only with the state of advancement of the work of his church in New Zealand, but also with the general topography of the country, of the manner of life of its Maori inhabitants, and of the white colonists who had gradually established themselves in both the North and South Islands.

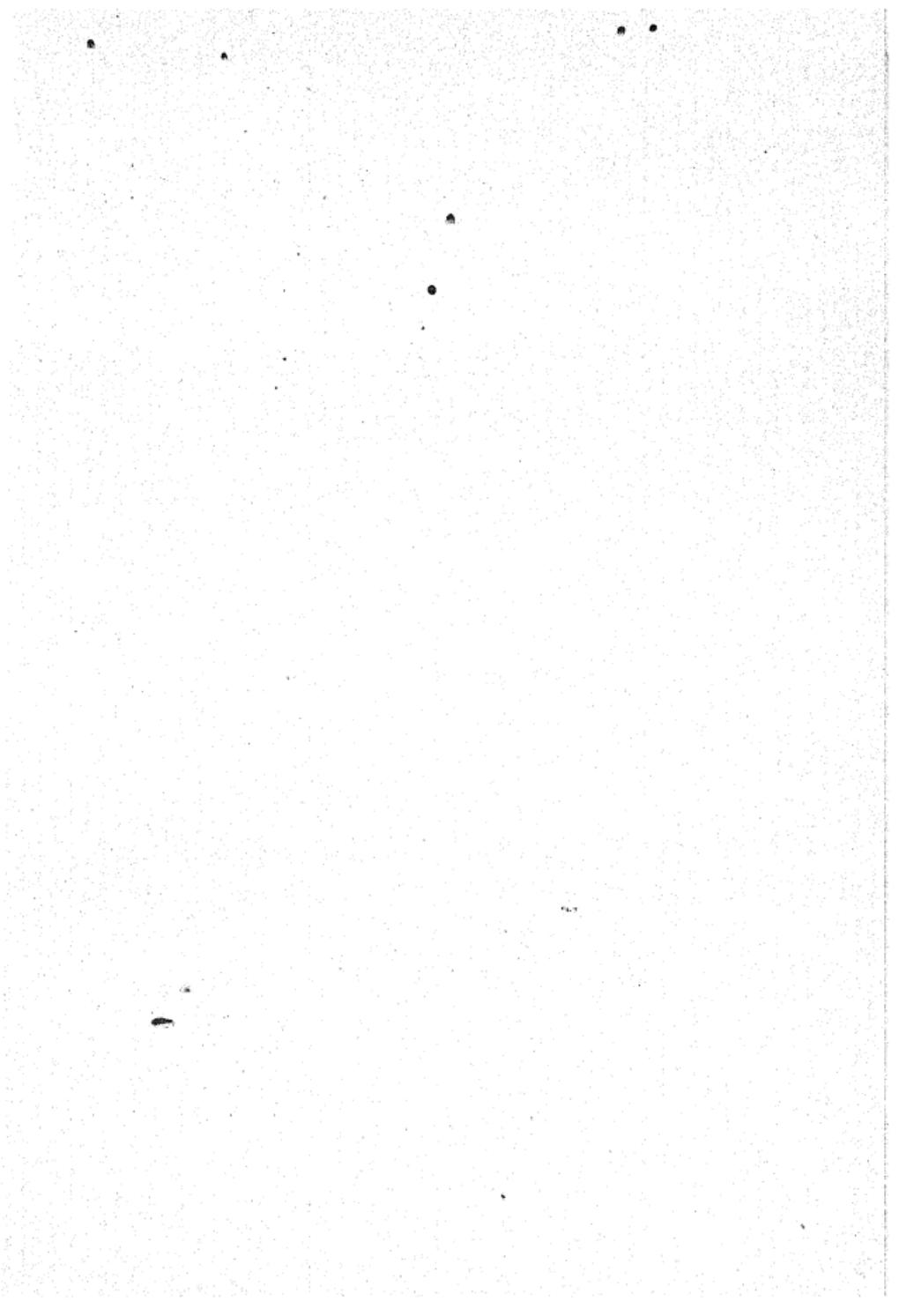
Selwyn spent a great part of his first years in the colony in such journeys, travelling for the most part on foot from station to station and frequently traversing difficult country. In this way, in 1844, he made the long overland journey from Auckland to Wellington. Determined to visit the South Island, which was as yet, except along its coasts, almost an unknown land, he took ship to Akaroa, on the east coast near Banks' Peninsula, and from that point made his way along the coast to the extreme south. His experiences on this journey showed him both the human problem occasioned by the contact of Maori and *pakeha* at the whaling and sealing stations, and the difficult geographical problem presented by the broad and deep rivers which had to be crossed as the traveller made his way south along the coast, where swamps often added to his difficulties.

The Bishop found the majority of the whalers glad to seize the opportunity afforded by his

visit of regularizing their marriages with their Maori wives, being anxious that their half-caste children should be given the advantages of education in church and school.

A second pastoral visit to the South Island in 1848 made him acquainted with a different type of colonist at the newly founded Scottish settlement of Dunedin, where he found not only Scottish Presbyterians, but also many who were members of the Church of England. When, in 1850, the "Canterbury Pilgrims" founded the Church of England settlement at Lyttelton, Selwyn was one of the first to visit them and welcome them to their new home.

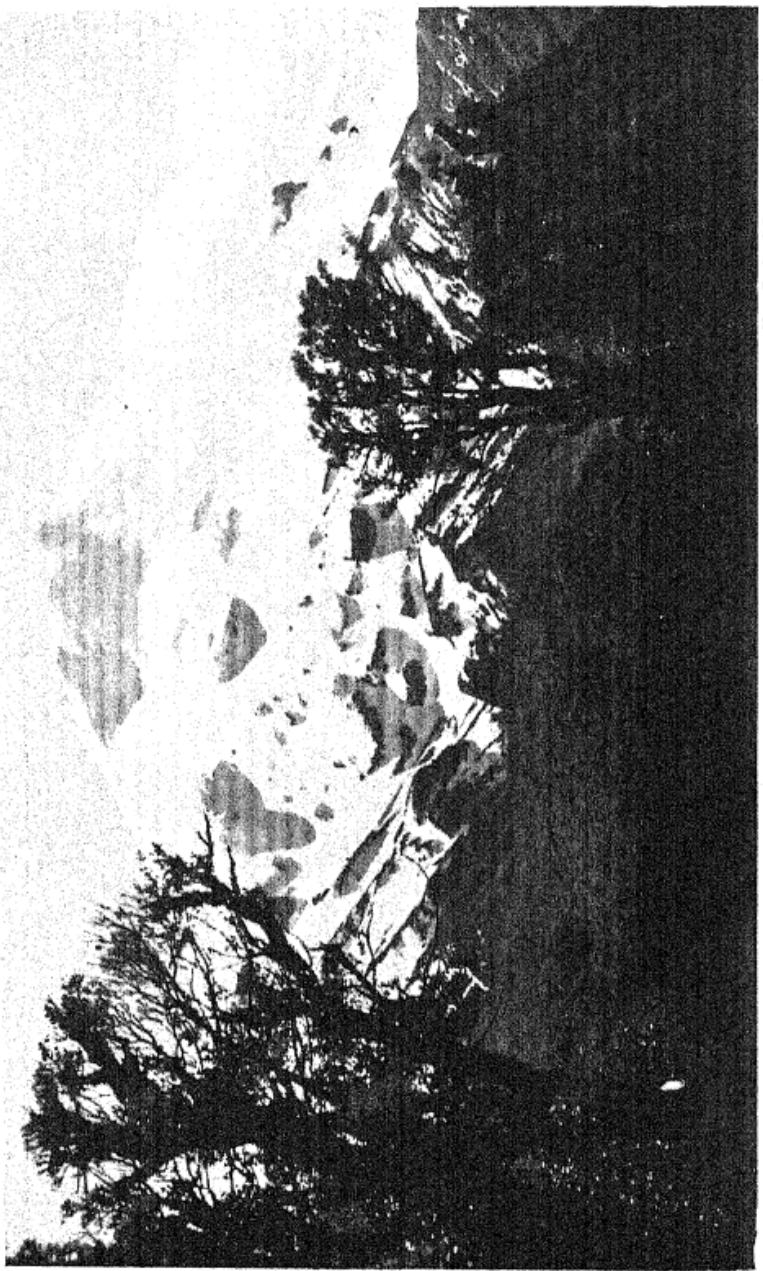
The earlier journeys of Bishop Selwyn, it is to be remarked, did not take him into the far unknown, since he made them while undertaking the work of organizing the activities of his church in New Zealand, and from the nature of the case he did not make any notable additions to geographical knowledge. On the other hand he rendered valuable service to the infant colony by making known to people in Britain the nature of the country, its climate, and the character of the difficulties which the colonist had to face. He could speak with the authority of first-hand knowledge of the various settlements in New Zealand. In 1853 he wrote: "The dim and visionary idea of New Zealand, which I used to brood over in 1841 before we left England, is changed by God's blessing to an accurate knowledge of every accessible part of the coast, and of almost every in-



New Zealand Government Publicity Photo.

MOUNT EGMONT, NORTH ISLAND

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habited place in the interior." Such knowledge gave him a unique advantage in advising the intending colonist, and enabled him to dispel many erroneous ideas with regard to colonial life in general. "It is just as well," he wrote to a friend, "that people at home should know that the trials of colonial bishops do not so much consist in the pleasant excitement of walking through the glorious forests, and swimming the rivers of New Zealand, or the like, nor in the novelty and refreshment of missionary work among a simple or savage people, but in being brought into contact day by day with the rudest and coarsest spirits of unrestrained colonization."

Before he returned to England in 1867, to be enthroned in 1868 as Bishop of Lichfield, Selwyn had seen the havoc wrought in the Maori church of New Zealand by the Maori wars, and had witnessed a great part of the campaigns as a chaplain with the British forces in the field. It is to his honour that throughout that troubled period he laboured incessantly for a lasting peace based on the brotherhood of the two races united "in an equality of privileges and position".

The greatest blessing now enjoyed by New Zealand is the fact that she has no native problem. Maoris and white colonists alike are glad to live side by side in fraternity and to call themselves New Zealanders. This was the goal towards which Selwyn toiled; that this ideal was finally attained was to the great pioneer bishop the crowning glory of his work in New Zealand.

CHAPTER III

Pioneer Surveyors and Scientists

At the time when Samuel Marsden initiated his mission in the early years of the nineteenth century, New Zealand was an unknown land to all except the Maoris who inhabited it and had penetrated to its remotest parts. The survey of the coast which Cook had commenced in epoch-making fashion in 1769, still remained to be completed. The interior of the country had to be explored and surveyed before the work of settlement could be undertaken. The geologist must follow and make his report so that some idea of the mineral resources of the country might be obtained.

As was natural, attention was first directed to the completion of the work of surveying and accurately charting the coast. French navigators were the first to undertake this task, the most prominent of these being D'Urville, commander of the *L'Astrolabe*, who spent three months—from December, 1826, to March, 1827—on the New Zealand coast engaged particularly in the exploration of the Hauraki Gulf. He subsequently

returned in 1840, when he visited Otago Harbour, Akaroa, and the Bay of Islands. His monumental work had unfortunately to be completed by one of his officers, owing to his tragic death. D'Urville, with his wife and son, was burned to death in 1842, in a railway accident near Paris.

Before the proclamation of British sovereignty, the survey of the coast had already been undertaken by officers of the Royal Navy. The work was begun in 1834-5 by H.M.S. *Buffalo* and *Alligator*, carried on systematically by Captain J. L. Stokes of the *Acheron* from 1848 to 1851, and practically completed in 1854 by Captain Drury of the *Pandora*. All who followed him found nothing but praise for the accuracy of the first charts of Cook.

While the coast line was thus being accurately surveyed, the systematic exploration of the interior was begun. The proclamation of British sovereignty in 1840, and the arrival of the settlers of the New Zealand Company who first established themselves at Port Nicholson (the modern Wellington), Wanganui, and New Plymouth in the North Island, and at Nelson in the north of the South Island, rendered it imperative that the work of exploration should be undertaken. The need was greater in the South than in the North Island, where the missionaries had already gained a general idea of geographical conditions, although few possessed any accurate knowledge of the districts outside those in which they were themselves interested. Only the coast line of the

South Island was known, however, until a beginning of exploration was made by the surveying parties of the New Zealand Company from the new settlement of Nelson.

The first of the pioneer scientists was Dr. Dieffenbach, a German medical man who had been compelled to seek a refuge in England owing to his participation in a revolutionary movement, and had there been glad to accept the post of surgeon and naturalist to the New Zealand Company. Sailing for New Zealand in 1839, in the pioneer emigrant ship *Tory*, he rejoiced to find himself in a land whose wonders had not yet been described to the European world. His *Travels in New Zealand*, published in 1843, describes his wanderings throughout the North Island, of whose inhabitants and natural characteristics he gives a graphic account. As a scientist he was particularly interested in a visit to the thermal district of the interior of the island, while, with the zeal of the explorer, he delighted in pushing his way into the wild and mountainous country covered with dense bush and scrub, where the first road surveying parties had just begun to cut roads outwards from the new settlement at Wellington, and where the ground was being cleared for the beginnings of the city itself.

Dieffenbach's greatest experience was his ascent, in 1849, of Mount Egmont, which had never previously been climbed by a European. The Maoris regarded the mountain as "tapu", and endeavoured to dissuade him from making the

ascent, assuring him that in the valleys at the base of the great cone which dominates the Taranaki plain there lurked strange monsters which would certainly devour him.

Eventually Dieffenbach persuaded an old priest, or *tohunga*, to accompany him as guide, and set off, to be defeated upon his first attempt by heavy rains and shortness of provisions. Returning to the coast, the scientist made more elaborate preparations for his journey, equipped himself with a larger stock of food, and added to his party a Maori chief who was eager to accompany him. In favourable weather conditions the ascent was made without difficulty, although the superstitious fears of the Maoris would not allow them to go beyond the limits of perpetual snow, about 7200 feet above sea-level, the height of the mountain being 8839 feet. Dieffenbach and his European companion, Heberley, found the mountain to be an extinct volcano, its crater filled with snow, and were delighted as they gazed upon the beautiful well-watered fertile land which lay beneath them, and which, Dieffenbach predicted, would yet be as celebrated for its beauty as the shores of the Bay of Naples skirting the base of Vesuvius.

After a hurried visit to the distant Chatham Islands, Dieffenbach in the last months of 1840, accompanied by an adventurous Frenchman, Captain Bernard, explored the long northern peninsula to the north of the Bay of Islands. In the peninsula he found much activity among missionaries, settlers, and Maoris. The natives were either

employed in cleaning the land and making roads to aid the advance of the white settler or, in their own villages, were occupied in fishing and the cultivation of their plantations of potatoes, kumeras, and turnips. From one village the traveller found that a bridle road had been cut by the Maoris through the forest, their pay being one blanket per mile. As he proceeded into the district round Wangaroa harbour, and moved among the forests of the great kauri pines, he lamented their wanton destruction by the settler and log-cutter, and loudly protested, in similar fashion, against the extermination of the quaint wingless native bird, the *kiwi* or *Apteryx*, which fell an easy victim to dogs, cats, and the Maoris who hunted it for the sake of its skin, from which they made ceremonial cloaks misnamed mats by the white settlers.

In company first with Lieutenant Best and later with Captain William Symonds, deputy-surveyor of New Zealand, Dr. Dieffenbach next made extensive explorations throughout the southern and central portions of the North Island. The geyser district in the Waikato valley, barren and forsaken in aspect, particularly interested the explorers. Here, round the shores of Lake Taupo, Dieffenbach was of opinion that he had come in contact with the finest Maori types he had yet encountered. He found these natives to be of a hospitable disposition, eager to listen to the teaching of the missionaries and inclined to industry.

In the Thames valley, to which he next pro-

ceeded, the seeds of trouble between Maori and *pakeha* had already been sown. The natives had disposed of their land to European settlers, and now, as they began to realize that their proximity to the rising city of Auckland gave their former territories great value, sought in vain to have them restored, feeling the while that they had a legitimate cause of grievance against the white man.

His full account of the Maoris as he found them, and of the work of the missionaries in New Zealand, together with his exhaustive treatment of the geology and natural history of the regions which he traversed, gives Dieffenbach's work the greatest importance.

Captain Symonds, who had been Dieffenbach's companion in some of his journeys, continued the work of exploration on his own account, pushing his way, in particular, to the headwaters of the Wanganui and Manematu rivers. In November, 1841, he was drowned in Manukau Bay, one of the first of the many surveyors and explorers of New Zealand who fell a victim to the dangers of pioneer travel. To blaze the trail for the farmer and the settler was a task that always involved difficulty and hardship and frequently danger. In the North Island the explorer and surveyor faced not only the difficulties presented by almost impenetrable forests, by swamps and rugged mountain ranges, but the danger from hostile natives. In the South Island the natural obstacles were even greater. The high alpine chain, that

forms the backbone of the island, presented a formidable barrier to him who sought to cross from east to west. The search for low passes over which a road-line might be carried, involved long journeys into high difficult country where the bed of the mountain torrent usually presented the only practicable route. The ever-present danger was that the creek or river which presented no obstacle and was easily forded to-day, might to-morrow, owing to sudden rains or the melting of the snows on the great divide, become a deep-rushing torrent, impassable by man or beast. Cut off from supplies amid the desolate mountains, the surveyors were often called on to face starvation. Death by drowning was the fate of many who risked the danger of swollen rivers in the endeavour to return to the base for supplies. The pioneer surveyors of the New Zealand Government were endowed with the true instinct of the explorer, and faced year by year an arduous task without hope of honour or reward. The dangerous nature of their work and its extreme value to the Dominion have never been adequately recognized, but it is certain that these men are not among the least of those who have built up a tradition which should summon the youth of New Zealand to high endeavour and cheerful self-sacrifice on behalf of the State.

The scientific researches in New Zealand of Dr. Dieffenbach were continued by Dr. Ferdinand von Hochstetter, a native of Esslingen, in Württemberg, where he was born in 1829. The son of

the principal clergyman of his native town, he had at first studied theology with a view to entering the church and had graduated in theology in 1851, gaining his higher degree of Doctor of Philosophy in 1852. Meanwhile, however, his natural bent towards science had caused him to devote much time to the study of mineralogy, palaeontology, and geology. Deciding to devote his life to science, he entered the service of the Austrian Government in 1853 as an assistant in the Survey Department. By 1856 he had become chief geologist for Bohemia. In the next year, owing to the outstanding merit of his reports, he was appointed geologist on the scientific staff of the Austrian frigate *Novara* which left Trieste on 30th April, 1857, upon a voyage of research and discovery which did not end till January, 1860. The expedition had visited many lands, including Madeira, the Cape of Good Hope, St. Paul, Ceylon, the Nicobars, Java, Lucon, China, and Australia before, on 22nd December, 1858, it reached Auckland.

The *Novara* left New Zealand on 8th January, 1859, sailing for Tahiti, but during her short stay Hochstetter had been at work, at the request of the New Zealand Government, on a report with regard to some coal seams which had recently been discovered near Auckland. This report impressed the authorities so much that they decided to approach the commander of the expedition with a view to securing for a longer period the services of the young geologist. With

some little difficulty the necessary leave of absence was obtained, and Hochstetter settled himself with enthusiasm to a scientific survey of the natural characteristics and mineral resources of the southern parts of the Auckland Province and the district around Nelson.

At the time when Hochstetter visited these parts of New Zealand they were as yet almost unexplored. No scientist had visited the thermal district in the interior since Dieffenbach's journey of 1840, and the information given by him was of too general a nature to satisfy a government which desired to learn from some authoritative source what credence could be placed in the numerous persistent rumours with regard to the existence in the interior of great deposits of coal, lead, and copper.

Hochstetter's expedition was well equipped and staffed by the Government. Chief among his assistants was a young German of twenty-five years of age called Julius Haast, who afterwards became an intrepid explorer of the rugged mountains and glaciers of the South Island. By a fortunate chance he had reached Auckland in an emigrant ship on the very day before the arrival of the *Novara*. It suited well with his desire to learn as much as possible of the country and its inhabitants that he should join Hochstetter in this journey, while that scientist, for his part, was glad to secure the services of a ~~companion~~ who was a trained draughtsman. Haast, at first the faithful henchman of Hochstetter, entered

with enthusiasm into the plans of his leader, whose affection he gained by his devotion to duty and by his unwavering cheerfulness. Possessing an alert brain and the faculty of painstaking observation, Haast took up the study of geology with great zeal, and in him Hochstetter found an apt pupil. In this way a friendship began which was maintained throughout life, although Hochstetter never visited New Zealand again after his departure in October, 1859, while Haast spent his days in the service of New Zealand, dying at Christchurch in 1887.

An interpreter, Major Drummond Hay, a photographer and artist, Mr. Bruno Hamel, a meteorologist, a young German called Koch, two European attendants, a cook, and fifteen natives, accompanied the scientists. Hochstetter moved, therefore, in almost regal state, if his equipment be compared with that of the average surveyor and map-maker in New Zealand.

During his first two months in New Zealand, Hochstetter was mainly engaged in an examination of the geological formations in the vicinity of Auckland. At the beginning of March, 1859, however, the expedition set out for the Waikato and the southern portions of the Auckland Province. During a journey which lasted for three months, a reconnaissance topographical and geological survey was made extending from Wangaroa and Mokau on the west coast to Maketu and Tauranga on the east coast, including the wonderful regions of geysers and hot springs extending

from Lake Taupo to Rotorua, Tarawera, and Rotomahana.

The travellers returned to Auckland in the beginning of June, and after visiting the gold-fields of the Coromandel Peninsula and the copper-mines of the Great Barrier and Kawau Islands, left about the end of July for Nelson, where they remained till the beginning of October.

During these months in the Nelson Province, Hochstetter visited the goldfields and examined the coal-measures of Golden Bay and the copper-mines at Dun Mountain. He also journeyed on several occasions into the interior of the province, going on one occasion as far south-west as Lake Rotoiti. From that moraine-dammed lake he viewed the north end of the alpine divide which, to his great sorrow, he was unable to explore.

In spite of his careful preparations and lavish equipment Hochstetter found that his journey into the interior of the North Island presented many difficulties. "The slender paths of the natives," he writes, "lead over hills and mountains in steep ascent and descent, rarely in the valley, nearly always along the ridge of mountain-heights. Where they cross the bush, the clearing is just broad enough for one man to wind himself through. An eye used to European paths will scarcely recognize those Maori trails, and man and beast would be in continual danger upon them—the horse, in danger of sinking into the deep holes between the roots of trees, and of breaking its legs, the rider of being caught among

the branches, or strangled among the loops of the 'supple jack'. Hence there is no other choice left but to travel on foot; and it requires full, unimpaired bodily strength and sound health to pass uninjured through the inevitable hardships of a long pedestrian journey through the New Zealand bush, over fern-clad hills, over steep and broken headlands, through the swampy plains and cold mountain streams of the country.

... The traveller must learn to find pleasure in living in the open air with the skies for a canopy and the earth for his table and bed."

The question of provisions for the journey presented less difficulty in the North than in the South Island, since native villages were to be found scattered throughout the interior where pigs and potatoes could always be procured. The travellers provided themselves with ample supplies of salt, sugar, and tea from the outset, and bought in other stores as they proceeded. Tea, pork, and potatoes were their chief articles of food, tea being made three times a day for the whole company.

Thus provided, Hochstetter could travel at the rate of about fifteen miles a day. The Maoris were invariably friendly and received him with the utmost hospitality, and the only plagues of which he complained were mosquitoes, sand-flies, and rats. Mosquitoes swarmed in the forest, especially along the creek-banks and in the clearings. Where this pest was absent, the sand-flies, small viciously stinging midges, abounded,

particularly on sea- and lake-shores, on sandy river-banks, and on dry uplands. At nightfall the sandflies disappeared and the rats gathered silently about the camp. The travellers took care to hang their provisions out of their reach upon poles, and reconciled themselves to the scampering of the rats over them as they lay on the ground on their fern beds. Generally, the explorers were tormented by sandflies by day and by mosquitoes by night.

Moving thus in an excellent climate, exposed to extremes neither of heat nor of cold, without the danger the traveller in tropical regions experiences from fever and ague, in a country well-wooded and well-watered, Hochstetter, in spite of all the difficulties of the march, found much that was enjoyable. The lure of discovery was in his blood. In words that must find an echo in the hearts of all who have journeyed amid similar scenes and circumstances he writes: "Everlasting will the recollections of those scenes be to me, when, after the troubles and trials of the day, we encamped at the edge of the woods by a roaring mountain stream; when the fire blazed up brightly, and the natives were singing their songs; then, everything lay hushed in repose, till, with the dawn of another day, the birds of the woods, the kokorimoko and the tui, merrily warbled their orison-lays. I love to look back to such scenes, to our river excursions in the well-manned canoes of the natives, to our stay in their Pahs, and to our peregrinating through the bush

in the shade of trees which are strangers to every other part of the globe—I look back to them all with a pleasure which makes me feel most sensibly how far superior the enjoyments of nature are to all the pleasures of refined life."

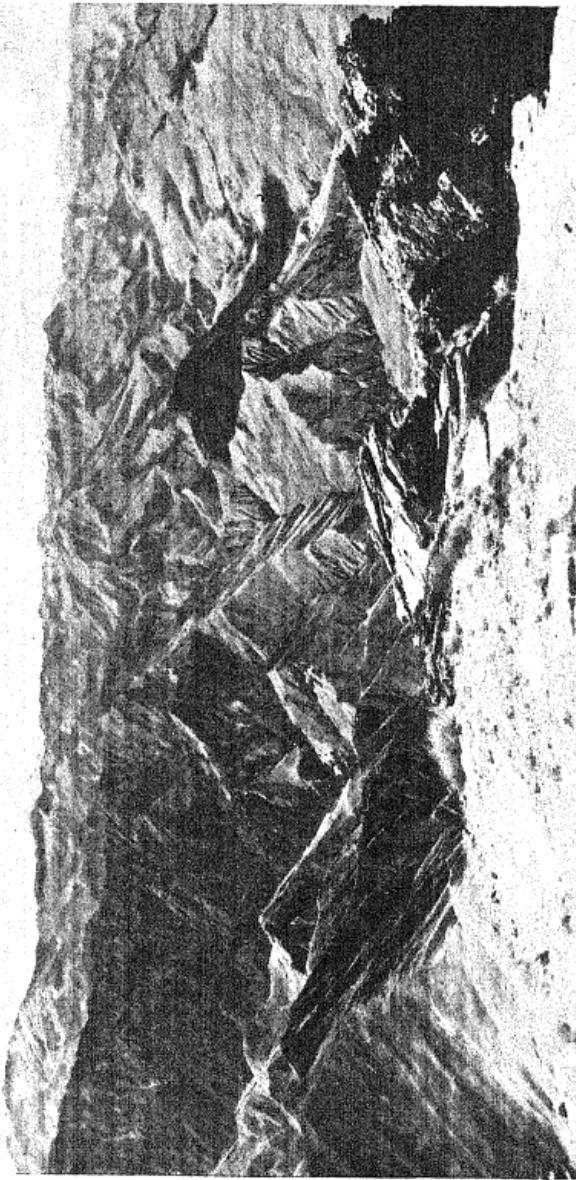
While busied with an estimation of the mineral resources of the districts that he visited, Hochstetter was no less interested in the natural wonders of the country. Lake Taupo, the active volcano Tongariro, its neighbour the extinct snow-clad Ruapehu, the hot lake and geyser district, the great pine forests, the numerous birds, particularly that "merry ventriloquist", the tui or parson bird, the yellowish-green owl or night parrot, the kakapo, the thievish weka or woodhen, and the brilliant Paradise duck—all these aroused his enthusiasm. In the limestone caves of Collingwood in the Aorere Valley, Nelson, to his intense delight, his party discovered numerous remains of the giant wingless extinct moa, including some almost complete skeletons.

In the North Island he had searched in vain every district that had been noted for the occurrence of moa bones. Other enthusiasts had preceded him, and the Maoris, discovering that the *pakeha* was prepared to pay well for moa remains, had gathered all that they could find. Hochstetter could procure only the pelvis of a small species, bought from a chief in the Tuhua district after anxious negotiation, and a smoked leg bone, which apparently had been long used as a club. In the South Island better fortune attended him.

The Nelson gold-diggers working on the Aorere River told him of recently discovered caves containing numerous moa bones. Haast took charge of the excavations in the caves, which he named Hochstetter's Cave and Moa Cave, and made a collection containing bones of ten different individual birds which had evidently died in the caves, their last hiding-place. Hochstetter's observations of the almost undecomposed state of the bones, their occurrence with the remains of animals still living in New Zealand, and his knowledge of Maori traditions with regard to the bird, led him to believe that the moa had become extinct within comparatively recent times, and that the chief agency in their extermination was man.

Moa bones had been found in both the North and South Islands in great numbers, especially in the vicinity of ancient Maori camping-grounds, and Hochstetter concluded that the moa was hunted by the Polynesian immigrants to New Zealand until it became extinct. In like manner, he prophesied, the Maori himself would disappear before the European, crushed out in the struggle for existence. New Zealanders are proud that the German geologist's prophecy has not been fulfilled, and that Briton and Maori now live without strife as a united people.

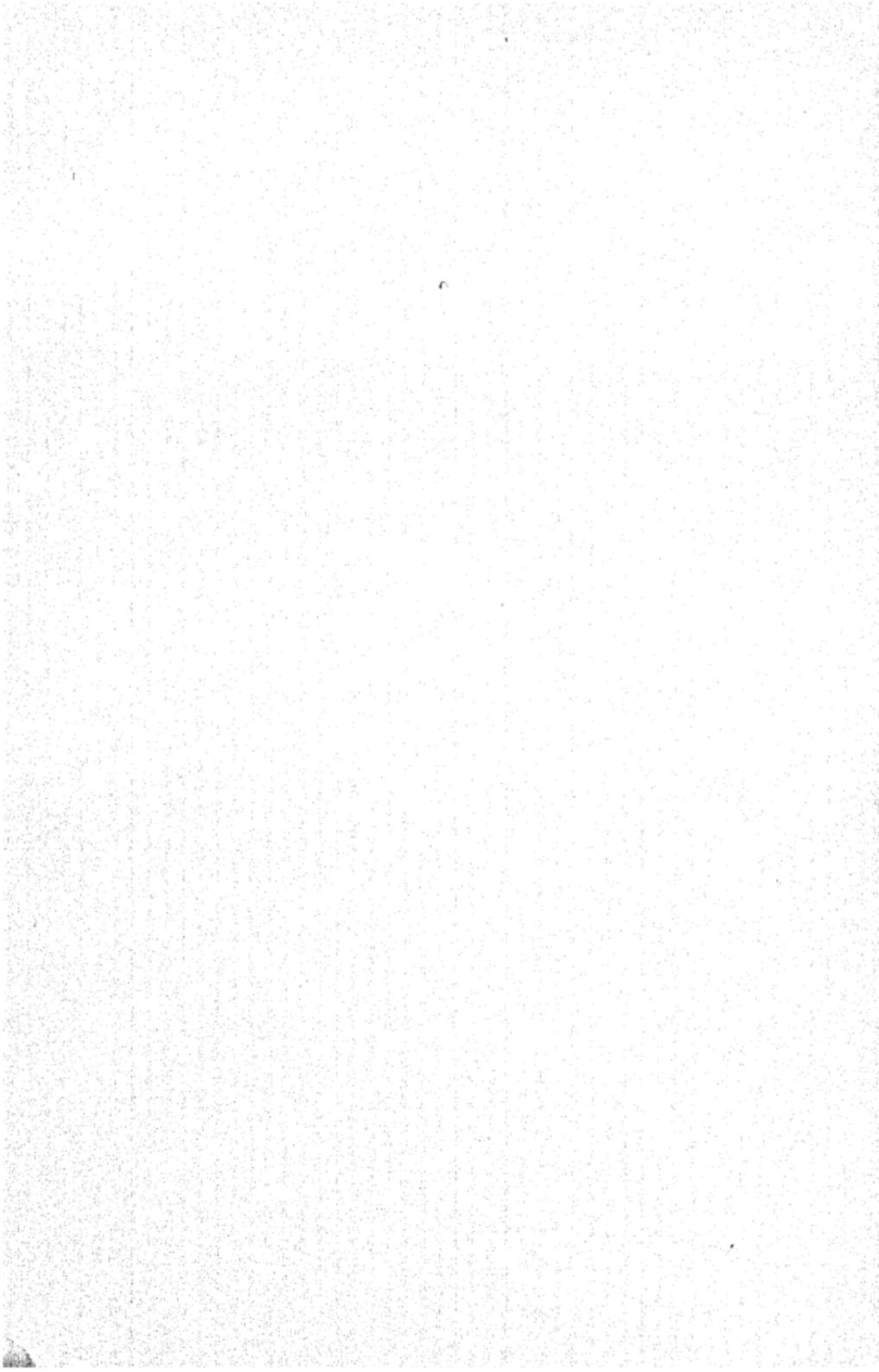
A report upon the geology of the Nelson Province completed Hochstetter's work in New Zealand. He would fain have travelled beyond Lake Rotoiti, his farthest south point, and ex-



New Zealand Government Publicity Photo.

VIEW FROM BEN LOMOND, OTAGO

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plored the ranges of the great divide. It was reserved for his young comrade, Julius Haast, to be a pioneer in the arduous and dangerous work of exploring the Canterbury Alps and in revealing their formation and structure.

Hochstetter reached Trieste in the *Novara* in the middle of January, 1860, to be employed till his death in 1883 as Professor of Geology and Mineralogy in the Technical University of Vienna. In 1863 he published, in German, his *Neu Seeland*, which gives an account of his travels and discoveries in the antipodes. An English edition of this fine work, translated by a German-American, Sauter, who happened to be in Germany at the time, appeared in 1867, the expense of the publication of the first edition being defrayed by the New Zealand Government.

Hochstetter himself never forgot New Zealand. Long years after his departure he wrote to his friend Haast: "My heart is still in that far away beautiful country over the sea where I spent the nine happiest months of my life." In practical fashion he showed his interest by sending to Haast for the Canterbury Museum a great number of the geological and ethnological specimens which are exhibited there. He held a firm place in the regard of Haast, who described him upon the occasion of his death as "a true, affectionate, and devoted friend: an honest searcher after truth, an honourable upright man, second to none among his contemporaries."

CHAPTER IV

The First Explorers of the Maori Greenstone Country

With the establishment of the settlement of the New Zealand Company at Nelson in 1841, it was natural that attention should be directed to the exploration of the interior of the South Island. The settlers were anxious to learn what lay beyond the ranges that confronted them, and to discover passes through them to Canterbury Province on the one hand and to Westland on the other. The whole of the interior was still unexplored; the east coast was, comparatively speaking, well known owing to the presence there of whaling settlements; whalers and sealers had also regularly made their way from the south northwards along the west coast as far as Milford Sound. The coast to the north of that point, however—the part specifically known as the West Coast—had been visited by these hardy seafarers only at irregular intervals, and existing knowledge of its characteristics was therefore of a fragmentary nature.

At the same time this part of the New Zealand coast had long possessed a romantic interest as the district whence the Maoris obtained the famous greenstone or nephrite called by them *pounamu*, from which with great skill and infinite patience they slowly shaped their most valued weapons and implements. The greenstone "mere" or battle-club of the Maori *rangitira* was his greatest treasure, carefully handed down from generation to generation along with the tradition of the mighty deeds accomplished with it by its fortunate owner. To a people living in the stone age and dependent upon stone implements this hard greenstone, which could be beautifully polished, was of great value. Tradition indeed has it that it was the discovery that greenstone was to be found in New Zealand that caused the Maoris to migrate thither from their early home in the far distant isles of the Pacific. So much was *pounamu* regarded by the Maoris as the chief attraction of the South Island that the natives of the North Island, who had travelled to the *Wai Pounamu*—the water or river where greenstone was found—gradually applied the name *Wai Pounamu* to the whole of the South Island.

Among the numerous rivers flowing from the great alpine chain to the West Coast are the Taramakau and, nine miles to the south, a much smaller stream, the Arahura. In the beds of these two rivers the greenstone was found in boulders among the deposits of gravel, while, from time to time, boulders which had been carried out to

sea by the rivers were found cast up on the beach between the mouths of these two rivers.

A little farther to the south lies the Hokitika River, at the mouth of which stand Hokitika, Westland's chief town. Greenstone is not found in the bed of that river, but it is frequently mentioned, nevertheless, in the traditions of the Maoris in connexion with this subject. The word Hokitika means "a straight way back", and the river was so named because along its bed lay the nearest route across the main divide to Canterbury by way of Browning's Pass—so called in later years after John Browning, Chief Surveyor of Nelson Province. In this region the river beds are the natural highways. Between the streams there lay dense forests through which it was difficult to penetrate. The Maoris, therefore, made their way into the interior along the gravel and shingle of the river beds, and the Europeans who first sought to find routes from east to west were compelled to follow their example. The Maoris, in all probability, did not use the high mountain passes which lead to the West Coast region to the south of Milford Sound. In that Sound, however, lies Piopiotahi, well known to the Maoris as the place where they could find *tangiwai* or tearwater, an inferior kind of greenstone, which differs from greenstone proper in chemical composition and which, although beautiful, can be easily scratched.

The Maori warrior who sought to descend upon the Ngaitahu people occupying the green-

stone region, to despoil them of the precious stone, could choose various routes, and a consideration of these is of value as showing the situation which faced the European explorer. It was possible to reach the coast by sea. The whole coast, however, is much exposed; great waves roll in from the Tasman Sea, breaking in foaming surf and making the coast a dangerous one even for well-manned canoes or boats. The traveller, therefore, usually preferred to attempt a land route. From the extreme north it was possible to move down the shore to the Arahura.

Brunner and Heaphy, the first European explorers to enter the greenstone country, chose this route on their journey of 1846. They found that in their dangerous task they had been anticipated some years before by the followers of the famous chief Rauparaha, who had led his men over the great cliffs and promontories which at intervals run down to the water's edge, causing them to construct frail ladders of flax and creeping plants when the headland offered no foothold by which they could descend. The European explorers found these ladders, and were glad to use them as they made their laborious way down the coast.

Various passes aided the Maori who sought to penetrate to the coast from Otago, Canterbury, or Nelson. From Otago a track led by way of Lake Wanaka, the Haast Pass, and the Haast River to the West Coast. One hundred miles north of the Haast Pass lies Whitcombe's Pass, linking the

south branch of the Hokitika with the Rakaia. North of this, again, is Browning's Pass, very frequently used by the Maoris, connecting the north branch of the Hokitika with the Rakaia. Arthur's Pass, still farther to the north, affords an easy route, but does not seem to have been known to the natives. It connects a tributary of the Taramakau with one of the Waimakariri.

On the borders of Canterbury and Nelson lies Harper's Saddle, which connects the Taramakau with the Hurunui. This route from east to west was much used by the Maoris, who were in the habit of using "mohikis" or rafts made of flax to float down the Hurunui. Finally various passes from Nelson Province lead into the upper valleys of the two chief West Coast rivers, the Grey and the Buller.

The task of the European surveyor and explorer lay, therefore, for the most part, in rediscovering routes which, from time to time, had been used by adventurous war parties of Maoris. To understand the difficulty of the work one must remember that the West Coast has a heavy rainfall—averaging over 100 inches a year—and that from the coast to an altitude of three or four thousand feet there rise dense forests carpeted with a heavy undergrowth of ferns and mosses. The frequent rivers whose wide shingly beds formed the natural highways into the interior of the country were liable to sudden floods. The wayfarer had to approach the alpine pass by way of the river bed until he emerged from the forest

on to the uplands clad, as a rule, with rare alpine flowers. Amid these stupendous mountains and swift-flowing rivers there was the constant danger of landslips, while, as one reached the heights, heavy snowstorms frequently barred the way. The Maori greenstone raiders, the early miners, the first surveyors, who faced the passes before roads and bridges had been constructed, essayed a task from which all but the bravest shrank. The mountain system stood as a dividing wall between east and west until the explorer, the surveyor, and the engineer showed how the barrier might be surmounted.

The first explorers to attempt to reach the West Coast region from Nelson were Thomas Brunner, a surveyor of the New Zealand Company, Charles Heaphy (afterwards Major Heaphy, V.C.), draughtsman to the Company, and William Fox (later Sir William Fox), an English barrister who had settled in Nelson in 1842, and who in 1848 became the principal agent of the Company. During the summer of 1845-6, these three penetrated the ranges behind Nelson to the Buller Valley, returning when confronted on an inland track by the mountainous and wooded gorges of the Buller.

On 18th March, 1846, Brunner and Heaphy again set out, having determined to make their way along the shore of the unknown West Coast. They found that they had undertaken a strenuous task. Carrying heavy loads, they were compelled to make their way over so many obstacles that

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their rate of progress was seldom more than three miles a day. Large fragments of granite, from ten feet to sixty feet in diameter according to Heaphy's account, occupied what represented the beach, and at low water amongst these and between them and the surf, lay their path. On the land side high forest-covered ranges blocked all passage except at points where Maori war parties had cut a path to avoid a jutting point against which the tide beat. At such places the travellers were compelled to ascend some 500 feet, and keep to the hillside for a mile or more, making their descent either by the bed of some torrent or by means of a supple-jack rope over the cliff. Each carried a load which, including provisions and instruments, weighed some 85 lb. At the outset each bore 40 lb. flour, 10 lb. sugar, 1 lb. chocolate, 8 lb. powder and shot, spare boots, a blanket, sextant and compass. Their provisions they supplemented as they moved southward by snaring birds and gathering shell-fish. As their scanty stores ran low they rationed the flour to one tablespoonful each per day, using this to thicken soup made from such birds as they caught. On that dangerous cliff-girt coast the surf was too high to allow them to fish. In some places mussels were to be found in abundance, but these caused dysentery. The sea-anemone or *toretore* was found more wholesome, but, being very salt and gritty, was not palatable. Fern root, usually plentiful in the New Zealand bush and much used by Maoris and pioneers as food,

was very scarce here. So unbroken was the forest that in a stretch of 120 miles along the coast, the travellers found only one small spot where fern grew. As they returned after their journey south, the explorers took with them from that place fern root sufficient to last for ten or twelve days.

It was not possible to make progress every day. From time to time two or three days would be spent in enforced idleness as the travellers waited for a flooded river to subside, or for the surf to become a little more calm so that they might be able to round a promontory which they could not scale. When it was found impossible to ford the rivers that constantly barred their path, they made rafts of *korari*, the dry flower stalk of the flax, the New Zealand *Phormium tenax*. This was made into bundles ten or twelve feet long and of the thickness of a man's body. The bundles were then lashed together into a boat-shaped raft measuring some 24 ft. in length, and 4½ ft. in width and tapering towards the ends. Propelled by means of paddles, such a raft could with ease carry a weight of 500 or 600 lb. across a river half a mile broad. When the distance was greater than this the time spent in transit was too long, and the raft was apt to become saturated and so lose its buoyancy.

The mountainous, rocky coast ends near the mouth of the Grey, the difficult rock-travelling ceasing there. From that point, long sandy beaches run towards the south, and the explorers

made such progress over these that the total time occupied in the journey from Nelson to the mouth of the Taramakau, their turning-point, was sixty-two days. In the Maori settlement at Taramakau they found the whole population, some forty in all, engaged more or less actively in sawing, grinding, or polishing greenstone. The village where these isolated people lived had a different appearance from that of any other native settlement they had before seen, since every house had a chimney, while, owing to the absence of pigs, fences were regarded as unnecessary.

These Maoris lived, from the nature of things, in isolation. From time to time they encountered sealers who, "with a hardihood and contempt of danger which even in whaling finds no parallel, visited every rock and reef on a coast which is iron-bound alike to canoe and sailing vessel". They had thus gained few of the advantages possessed by natives in contact with Europeans. They had never seen pigs or horses; they had potatoes and a small patch of maize but no other European foodstuff. In place of the European clothing of natives in other parts they wore native mats. Birds were numerous in the forest—the weka, the kakapo or night parrot, and pigeons were found in enormous numbers and these the Maoris speared.

These natives, who for great part of the year depended for food upon the produce of the forest, were found to be very much more energetic than

Maoris living in more favoured districts. In bird-catching they showed great skill. "Each call or whistle of a bird," writes Heaphy, "he can imitate and so well as to lead the weka or kakapo up to himself as he lies covered with his flax mat and motionless. The call that enticed the bird at 100 yards distance fails of its blandishment when a few feet only are separating them, and a guttural croak, repeated with discretion and at proper intervals, draws the stupid wood-hen up until a flax-noose is put, with the aid of a stick, round her neck. Her own cry of alarm is then used to entice her companions, who come up to see what is the matter and are also noosed." Birds caught in this fashion were preserved in their own fat for winter consumption. The natives also caught whitebait in the river in the season, but were unable to fish in the sea on account of the surf.

To polish a favourite piece of greenstone had become a passion with these West Coast Maoris. If a native found himself unable to sleep, he would get up and polish his treasured *mere*. If in pensive mood, he would take a piece of greenstone to the beach and work at the edge of the surf. If on a journey, he carried a piece of greenstone and a small piece of slate with which to rub it, and commenced the polishing process as soon as a halt was made. To grind at a piece of hard greenstone seemed, in short, to serve these Maoris as smoking serves him who has become accustomed to the use of tobacco.

Brunner and Heaphy's return journey proved as painful as their outward one. Their first stock of provisions had long since been consumed, and they were compelled to live on such potatoes as they could carry from the Maori settlement, fish cast upon the beach, shell-fish, and fern root when they could find it. At times they were reduced to such straits as caused them to contemplate making a meal of Smutty, their dog companion. Two entries from Heaphy's journal speak eloquently of the plight in which they found themselves: "Found the remains of a dead pigeon, the rats leaving it as we approached, and made soup of it with wild rock parsley." "Found a dead cormorant, carried it on and supped of it with sea snails." Indomitable perseverance and courage, however, maintained them. The perils of the precipices with their frail ladders were again vanquished, and the weary difficulties of the rock-strewn beach finally left behind. Heaphy's journal closes on a veritable note of triumph: "On the 18th of August we arrived at Nelson, having preserved Smutty, the little terrier dog, uneaten."

These experiences but whetted the desire of Brunner to explore the interior of the West Coast territory whose shores he had just with such labour traversed. On 3rd December, 1846, accompanied by two natives and their wives, he set out on an expedition involving such difficulties and dangers as have rarely been encountered by an explorer in New Zealand. He was absent

from the Nelson settlement till 15th June, 1848, thus spending eighteen months in the bush. During that time he descended the Buller from its source near Lake Rotoiti to the sea. Following the coast-line from the mouth of the Buller to that of the Grey, he then made his way up that river to its source, and finally, crossing over to the headwaters of the Buller, made his way back to Nelson.

The report in which Brunner described his experiences while exploring the valleys of the two great West Coast rivers embodies a narrative which moves by reason of its very simplicity as he tells of the endurance of hardships that must have caused the great majority of men to fall victims to the perils of the wilderness.

The Buller, along which Brunner first pushed his way, presented many obstacles to the explorer. He tells how he learned to ford the river with the aid of his companions. "Two or more persons crossing a river," he writes, "will find it much easier and safer to hold altogether by one long stick, using both hands and holding it on the palm, the elbow downwards, the strongest of the party up the stream. The quicker you walk the better, taking care to keep the step of the leader. It is a curious feeling, particularly to your feet, which, from the force of the stream and the slipperiness of the stones, seem scarcely to touch the bottom." At times again when it was imperative to cross where no ford could be found, the pioneer was compelled to take risks which the simplicity

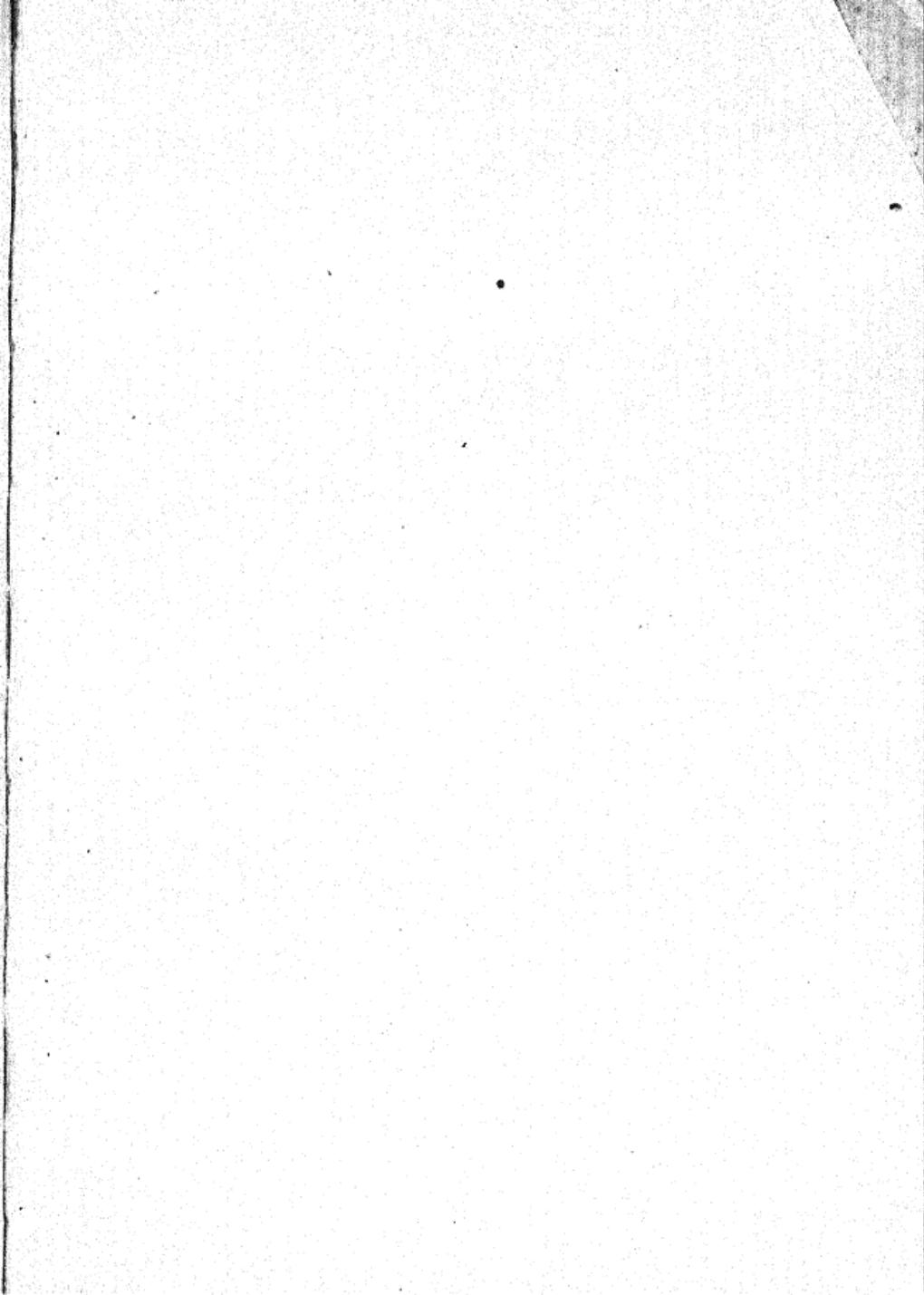
of his narrative does not disguise. Thus, speaking of an early stage in his journey on the Buller, he writes: "We could find no ford, so Ekehu agreed to go over first and then return if possible; he did so, partly swimming, partly wading. We then agreed to venture, all five holding our stick, taking off all our clothes and securing our loads high up on our shoulders; the river in some places ran just mouth high, with a powerful current. We, however, reached the other side, having well wetted our clothes and loads."

As the party proceeded they supported themselves on the produce of the river and the forest, now feasting royally, now reduced to the utmost straits. At one point, for instance, Brunner described how the party made a *kupanga* or net measuring about fifty feet by four, and then had the satisfaction of catching with it about fifty good-sized fish, called the *upukuroro*, or fresh-water herring. He tells again of some of the dishes prepared for him by his natives. "We collected a quantity of the roots of the *ti* or cabbage tree," he writes, "which we placed in a *humu*, or native oven, for the night. The natives prepare a very palatable dish of the *ti* and fern root. They extract the sweet particles of the former by heating and washing it in a proper quantity of water, and when about the consistency of honey, they soak in the liquid some layers of well-beaten and cooked fern root which, when properly moistened, is eaten, and has a similar relish to gingerbread. This can only be made

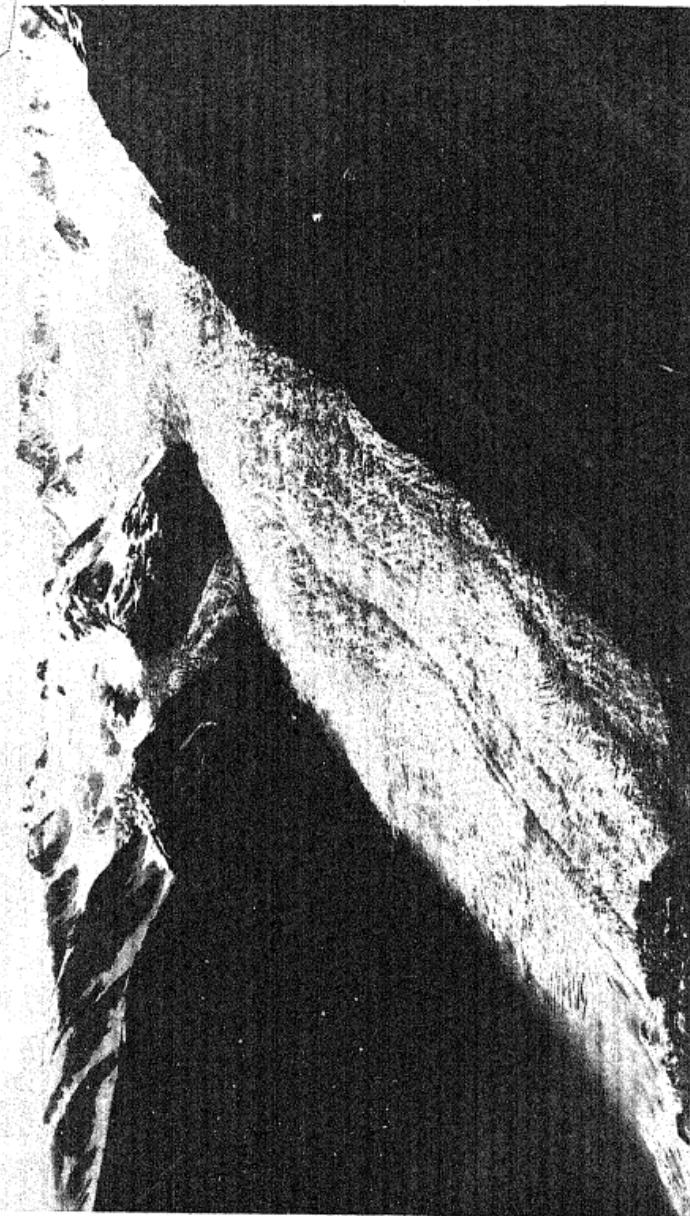
when staying two or three days at a station. The root of the *ti* is the part used by the natives. It is generally from three to four feet long and of a conic shape, with an immense number of long, fibrous roots attached to it: so that the natives, whose tools consist of a pointed stick and their hands, consider they have done a glorious day's work if they manage to obtain five *ti* roots in a day. It requires an immense oven and to remain twelve hours baking." He found this food excellent, although somewhat sweet. With fish, he declared, it made an excellent meal. As he moved down the Buller, however, he found himself entering a country where the river flowed deep and still over and between large granite rocks and through a black-birch country. Formerly they had found numerous eels in the river, now they found none amongst the granite rocks. The birch forest was likewise destitute of anything fit to eat and contained very few birds. In the end the party were compelled to retrace their steps to replenish their store of provisions before again entering this inhospitable district. An entry in Brunner's journal vividly describes the nature of his self-imposed task in the exploration of the Buller Valley. "We came along the river bank about one-third of a mile," he writes, "which distance took at least two hours to accomplish, hands, knees, and feet being all actively employed. I do not think ten paces of the whole distance were passed without securing a good hand hold. The river then became impassable and we had to ascend

a ridge which took the remainder of the day. Slept on the summit of the hill, which we found very cold lodgings. From this elevation I looked for a pass to the south or east, but there is none observable. . . . I really believe two or three miles is the utmost that could be accomplished, under the most favourable circumstances, on these short days, in such a country. Large granite rocks heaped confusedly together all over the surface, with a thick growth of underbrush and briars, an immense quantity of dead and rotten timber, and all those on the steep and broken declivities of a range of high mountains interspersed with perpendicular walls of rocks, precipices and deep ravines, form a combination of difficulties which must be encountered to be adequately understood or allowed for." To complete his trials he had to encourage his companions, who were ill and disheartened, while all were reduced to one meal of fern root every twenty-four hours.

The vicissitudes of the journey were many. This first hunger period was succeeded by a few days of feasting in the forest where the Maoris in one day's hunt secured "seventeen weka, a dozen pigeons, a kaka, and six crows," on which they made a full meal, following this up on the next day with a catch of "twelve eels, a sole, and a large trout—the largest I had seen in New Zealand—I should say it weighed at least 2 lb." A week afterwards Brunner describes the party as able to find only a small fern tree, which gave



FRANZ JOSEF GLACIER, WESTLAND, SOUTH ISLAND



them a meagre breakfast. In another week occurs a melancholy entry. "Hunger again compelled us to shift our quarters in search of food, but finding none, I was compelled, though very reluctantly, to give my consent to killing my dog, Rover. The flesh of a dog is very palatable, tasting something between mutton and pork. It is too richly flavoured to eat by itself."

At the end of May, six months after leaving Nelson, Brunner began to reach the mouth of the river whose course he had followed so laboriously. He and his companions were in a sorry plight. They had now reached a level country, having at last left behind them the precipices and mountains among which they had wandered for so many months. They felt elated as they knew that they were approaching the coast, although their condition was still far from being a pleasant one. They were on the brink of starvation in an enormous dense forest, so thick in some parts that they could not see their way in it as they moved through thick tangles of supple-jacks and brier over the deep moss, rotten timber, and pools of water which covered the surface of the ground. Neither did they know how far the forest yet stretched. The nights were cold and the explorer found it impossible to sleep. Cold and hunger continued to make him "one complete shiver". In addition he found that all the natives except his personal attendant Ekehu became very irritable in temper and unwilling to make exertions as their privations increased. Their way was a

continuous lament as they blamed their leader for all their misfortunes.

When the party eventually arrived at the coast, they were so hard pressed before they reached the native settlement at the mouth of the Taramakau that they were glad to make their meals of seaweed. The Maoris among whom they now sojourned, however, entertained them with great hospitality, and for the moment caused them to forget the perils and discomforts of the journey. The natives had just acquired some pigs which were regarded as great treasures, somewhat to Brunner's discomfort. "Pigs being new to them," he writes, "they were kept in the chief's hut, to which I, being a stranger, was forced to resort, and they certainly did not add to the comfort of visitors, for I had to keep up a continual fight with them at night for the possession of my blanket, and, during the day, for my kit of potatoes."

The assurance of regular meals at this time made the explorer look with the mind of a philosopher upon the misfortune that now befell him, when his last pair of boots became so much worn as to be of no further use. "I believe," he writes, "I have now acquired the two greatest requisites for business in New Zealand, viz. the capacity of walking barefoot, and the proper method of cooking and eating fern root. I had often looked forward with dread to the time when my shoes would be worn out, often fearing I should have to be left a barefooted cripple in

some desolate black-birch forest, or on this deserted coast; but now I can trudge along merrily barefoot, or with a pair of native sandals, called by the natives *pairairai*, made of the leaves of the flax, or what is more durable, the leaves of the *ti* or cabbage tree (*Cordylene australis*). I can make a sure footing in crossing rivers and ascending or descending precipices, in fact, I feel I am just beginning to make exploring easy work. A good pair of sandals will last about two days' hard work, and they take only about twenty minutes to make."

During these months of rest among the natives of the coast, Brunner came to have a genuine regard for them and to feel that something ought to be done to improve their lot, since their isolation cut them off from many of the benefits that came to their more fortunately situated fellows. He found that on the whole extent of the West Coast north of latitude 44° , there lived only 97 Maoris of all ages. All of these professed some form of Christianity, 29 being members of the Church of England and 68 Wesleyans. All possessed both Bibles and prayer-books, but they were in great need of tools and implements of all kinds—axes and nails in particular were greatly valued by them. He found them a quiet, inoffensive, hospitable people, cleaner in their habits than the Maoris he had seen elsewhere, and living in houses of superior construction to the usual native house.

Among these natives, Brunner reached the end

of the year 1847, a year which he had spent entirely amongst Maoris and chiefly on the banks of the Buller, living on such produce as the country afforded. He now conceived the idea of ascending the Grey River and of ascertaining the character both of the country through which it passed and of that which lay beyond towards the east coast.

Setting off with the same party of Maoris at the end of January, 1848, he had by the beginning of March reached the headwaters of the Grey, and attained a point whence he could see the spreading grassy plains of Port Cooper, now called the Canterbury Plains. His natives informed him that he was eight days' journey from the east coast, but at the same time, remembering former privations, compelled him to direct his march towards the Nelson settlement before the weather should break. The event proved that the natives had wisely advised. Hard living, constant wettings and exposure to cold had taken greater toll of Brunner than he himself knew.

By the middle of April he had lost the use of one side and was unable to move, being dependent entirely upon the service of his devoted servant Ekehu. Epike, the other Maori, and his wife refused to remain in the wilderness with a man whom they thought to be dying, and moved forward alone. Lack of provisions, however, compelled Brunner, in spite of the fact that he could not move without assistance, to proceed on his journey, so that Ekehu might reach a

point where fern root and birds might be procured.

Moving with difficulty they fell in with the runaways, Epike and his wife, who had been in part responsible for their trouble, since they had been clearing the country of birds before them. From this time until the end of his journey, Brunner was in constant pain. His illness was aggravated by wet weather, the enforced fording of swollen streams, and the scantiness and bad quality of the food. To crown his misfortunes, as he lay one night under the shelter of a rock, a basket in which he had placed all his sketches, several skins of birds, many curiosities, and some memoranda, fell from the place where it had been hung and was burned, the whole of its contents being destroyed.

On the 15th of June, late in the evening, the wanderers reached the banks of the Rotoiti, near which stood the house of Brunner's friend Fraser, who had been the last to wish him godspeed as he went forth from civilization. His Maoris wished to camp for the night, but Brunner had determined to sleep under a roof. "I told Ekehu," he writes, "I should push forward and endeavour to spend the night at Fraser's. When I mentioned tea, sugar, and bread, the woman agreed to follow me, so I pushed ahead to prevent myself from hearing the grumbling of Ekehu about sore feet, which, after dark, were sorely pricked by the ground-thorn. We reached Fraser's about ten o'clock at night, whom we found in bed, but he

soon arose, and gave me a hearty welcome and the luxury of a taste of good tobacco. So, thank God, I am once more among civilized men, of which I have had many doubts during my illness, and this preyed much on my mind. It is a period of nearly five hundred and fifty days from the time I wished Fraser good-bye on the banks of the River Rotoiti, and my seeing him again at his house, during which time I have never heard a word of English, save the broken jargon of Ekehu and the echo of my own voice, and I rather felt astonished that I could both understand and speak English as well as ever."

To trace the Buller and the Grey from source to mouth, living meanwhile for eighteen months entirely on the scanty natural productions of the country, was a feat of which even the hardiest of pioneers might feel proud. With characteristic modesty Brunner was quick to say that without the faithful Ekehu he must have perished in the wilderness. His work was deservedly crowned by the recognition of the Royal Geographical Society of England. No name in the long list of explorers and adventurers in New Zealand stands higher than that of Thomas Brunner.

CHAPTER V

Surveyors and Explorers in War and Peace

Between 1850 and 1870 occurred the period of greatest activity in the exploration of New Zealand. By 1859 settlers had established themselves at the points on the coast of both North and South Islands whence they were gradually to push their way into the interior. The southern districts of the South Island, which had so long been left to the whaler and the sealer, witnessed the arrival in 1848 of the Scottish pioneers of Otago, and in 1850 of the English settlers of Canterbury. The ground where these immigrants were to establish themselves had been traversed as early as 1843-4 by Dr. E. Shortland, Protector of Aborigines, who made his way along the east coast to the most southern portions of the island, and reported his experiences in a valuable book.

In 1844 Frederick Tuckett, principal Surveyor of the New Zealand Company in the Nelson district, accompanied by Dr. (afterwards Sir

David) Monro of Nelson, made a still more careful examination of the coastal regions from Banks' Peninsula to the extreme south, even crossing the strait and visiting Stewart Island. Tuckett had been entrusted with the duty of selecting a suitable site for the establishment of settlements in the South Island, and it was as the result of his careful examination of the ground that the Scottish settlers of 1848 made Dunedin their chief town. His work involved great physical exertion and exposure, since he was frequently compelled to make laborious marches over swampy ground thickly covered with native grasses, to cross deep rivers on flax *mohikis*, and to camp under adverse weather conditions in cold and rain.

As the settlements in both North and South Islands grew, there inevitably arose a demand for land, which caused the pioneers to move onwards from the coast into the hinterland of their various districts. The settlers in the North Island faced the difficulties of the primeval forests, dense bush, unknown swamps. After 1854 the Maoris began to give trouble over land questions, and the surveyor and roadmaker were frequently compelled to work under the protection of armed constabulary and parties of friendly natives. Surveyors like Stephenson Percy Smith, who joined the Survey staff in Taranaki in 1855 and ultimately became Surveyor-General and Secretary for Crown Lands, were called upon to plan the roads from the coastal settlements

into the interior, and in performing this duty led lives which were never free from danger.

When, in 1860, the murmurings of discontent among the natives gave place to a war of raids, forays, and deadly ambuscades in which the Maoris, moving without impediment through their native forests, frequently proved more than a match for soldiers who had yet to learn the art of bush-fighting, the members of the Government Survey Department, from their peculiar knowledge of the country, were called upon to undertake various missions in the enemy districts.

Thus when, in 1860, the authorities in Auckland feared a descent of the Maoris of the Waikato upon the town, Percy Smith, who had just returned from surveying in the Kaipara and Northern Wairoa districts among the Ngati-Whatua, was ordered to hasten to Kaipara and bring to the aid of the Government the friendly natives of that tribe. Auckland lay almost defenceless to attack. The regular troops were in the Taranaki district and only partially trained volunteers and militia remained. Setting off immediately in a canoe with three Maoris, the young surveyor paddled up the Waitemata, carried his canoe during the night over the portage between the upper waters of the Waitemata and the Kaipara, and, as soon as the tide served, sailed down that stream to the Wairoa. The Maoris, to the number of some six hundred, were found encamped at Te Koporu, where a meeting had been called to arrange peace between the Ngati-Whatua and their rivals

the Ngapuhi. Smith endeavoured in vain to impress upon the warriors the necessity of an immediate departure for Auckland. Before they could move, peace must be concluded with all the ancient ritual, and these ceremonies occupied a week, during which the chiefs made speeches, while the warriors and the women performed their customary dances. Peace having, in this fashion, been duly concluded, the Ngati-Whatua set sail for Auckland in a fleet composed of some thirty boats and several fine war-canoes. Detained on the voyage by bad weather and heavy seas, the relieving force—much reduced in size by many desertions—took nearly a week to reach Auckland. In the fortnight, however, which had elapsed since Smith's dispatch, the Waikato warriors had abandoned the idea of descending upon Auckland, greatly to the disappointment of the Ngati-Whatua, who were eager to meet in battle their great enemies the Waikato.

The surveyor Charles Heaphy, the explorer of the West Coast, had the distinction of earning the only Victoria Cross awarded to a colonial soldier during the Maori Wars. He had already taken an active part in the struggle and been twice wounded when, in January, 1864, he became Chief Surveyor to the New Zealand Government. Attached immediately thereafter as Staff Surveyor to the forces in the field under Generals Cameron and Chute, he accompanied the army throughout the campaign until on the lower Waikato, in an engagement at Waiari on the

Mangapiko River, which took place in February, 1864, he earned his V.C. for his gallantry in going to the aid of a severely wounded soldier.

Another surveyor who took a prominent part in the Maori War was Major Daniel Lusk, who had been one of those engaged in the laying out of Christchurch in 1851. Proceeding subsequently to the Taranaki district, where he owned a bush farm, he had been active in forming local defence forces, since he was certain that peace with the Maoris could not be maintained for an indefinite period. "He was a frontiersman of the best kind," writes Cowan in his *New Zealand Wars*, "energetic and observant, used to the bush, and endowed with a natural gift of leadership. To him more than to any other settler-soldier the credit was due of placing the district west of the Great South Road in a state of defence." Von Tempsky, who became so famous at this time as a master of bush fighting, described Lusk as "a man of consummate judgment about Maori war, . . . cool and collected, keeping the men together." Near Manukau Harbour lies the Mauku district, where, in 1863, hard fighting took place. The Church of St. Bride's, a wooden building with shingled roof, which still stands, was protected with a stockade placed close against the church. Loopholes were cut both in the walls of the church and in the stockade, and Lusk's band of volunteers guarded the fort which had thus been made. They were not left unmolested, and on 23rd October, 1863, drove back a war-party of Maoris

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only after heavy fighting in which Lusk greatly distinguished himself by his cool leadership. Later when, in the beginning of 1864, the Imperial forces moved into the heart of the King Country by way of the upper waters of the Waikato and the Waipa, Lusk's knowledge of the bush and of the topography of the country was again utilized, and he was selected to act as one of the guides. The troops relied for supplies upon small river-steamers. When one of these, the *Avon*, struck a snag in the river and was, for a time, out of commission, Lusk again showed the usual resource of the bushman and surveyor by setting a body of colonial militia to cut a track suitable for pack-horses from the coast at Raglan Harbour, over the hills and through the bush to the Waipa. Along this track supplies were hurried to the troops, who were thus able to keep the field without serious inconvenience.

After serving throughout the war Major Lusk again entered the service of the Survey Department, acting for many years as Crown Lands Ranger. He did not cease to be interested in military affairs, retained his commission as an officer in the colonial forces, and at the time of his retirement commanded the Auckland Military District. Major Lusk's career well illustrates the value of the services rendered by the trained surveyor both in peace and in war to the government of the Dominion.

Before the campaign had ended, the Government surveyors were already actively engaged in

surveying the lands in South Taranaki which had been confiscated from the natives and which were now to be occupied by military settlers. The dispossessed natives were in force and were held at bay only by the troops, who had constructed small redoubts along the frontier line of the district that was to be surveyed. The surveyors pitched their camps close to the redoubts and worked under the protection of armed parties, in constant danger of attack from Maoris lurking in the bush. S. Percy Smith, as a district surveyor in Taranaki, took part in much of this dangerous work of laying out roads and surveying sections for townships and military settlements. His private journal dealing with his activities at this time gives some idea of the dangers encountered. Writing, for example, of the events which occurred on 16th June, 1866, while he was engaged in the Wai-ngongoro, he says: "This was one of the nicest posts in this part of the country. One redoubt was situated on the southern bank of the river and on top of the cliff overhanging the sea. The other lay on the northern side of a rise commanding a beautiful view of the plains around here, dotted with 'hostile' cattle and horses and backed by Mount Egmont, which on this clear frosty morning looked superb. At 12 we started back for Kakaramea and got on all well as far as the Waihi Stream, some three miles from the Wai-ngongoro. Here Lieutenant Wirihana, of the Native Contingent, advised us to ride on, in case of the Hauhaus (Maori religious fanatics)

being about. My horse, being very fresh, would insist upon keeping about forty yards ahead of the rest. As we reached the point where the Kete-marae Road turns off from the General's road along which we were travelling, I heard Wirihana call out something to me which I did not catch at first, but tried to pull up my horse; this, after a time, I succeeded in doing. I saw that they all had stopped, and I heard them call out 'Hauhaus', and they pointed behind me. I turned my head towards a clump of flax bushes and then saw a lot of Hauhaus about forty yards from me, rising up out of the fern, and at the same instant they poured in a volley at us. Of course we all rode off as fast as possible, with the bullets flying about our ears, as they kept up an incessant fire for a long way. Some of the balls were unpleasantly near, and I could see them and hear them striking the flax as we rode along. We recrossed the Waihi, where we saw another party trying to cut us off, and reached our last night's quarters, Wai-ngongoro, and very thankful to God I feel for our miraculous escape. None of us was hit, though there were more than forty Hauhaus firing at us as hard as they could. If it had not been for Wirihana, who saw their heads moving in the flax, we should have just ridden into the ambush and probably all have perished. Captain Dawson gave us some ten troopers and fifty of the 18th Regiment to go back as an escort part of the way."

When the war had ended, considerable opposi-

tion was frequently shown to surveying parties by Maoris in the outlying districts, who feared that the sequel to the survey would be the confiscation of their lands. The country itself presented serious natural difficulties. The ranges of the East Cape district in Poverty Bay are precipitous and densely wooded. In the King Country lies a vast territory, the survey of which occupied many years. The explorer moved with the utmost difficulty amid a mass of high forest-clad mountains where no track was to be found, and where all supplies had to be borne by native carriers. The New Zealand surveyor required a stout heart to carry out his duty in such regions where, until within the last thirty or forty years, he was never certain that Maoris would not oppose him, if not with arms, at any rate by carrying off his instruments, in their desire to assert their ancient rights to tribal lands.

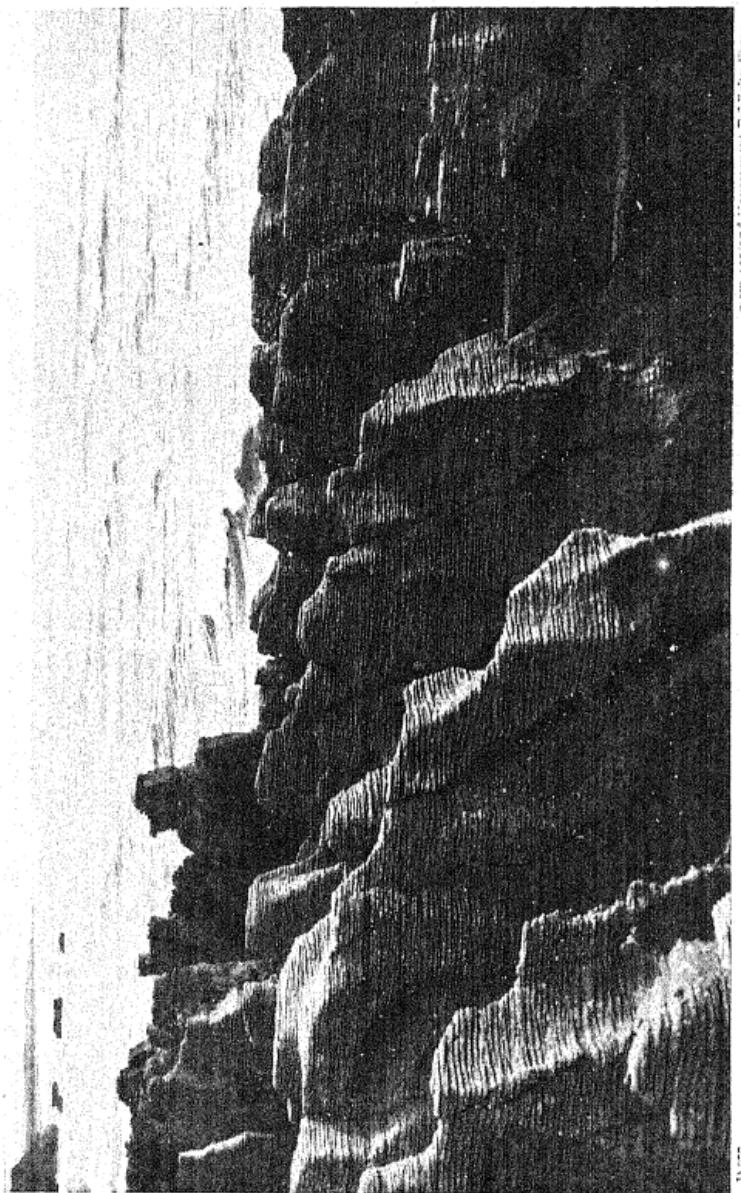
While native wars thus retarded progress in the North Island and compelled the settlers to protect the districts already occupied rather than to seek fresh ground, the settlers in the South Island faced only the natural difficulties of their situation. As the more daring spirits pushed forward into the hinterland of their districts they found the way barred by the great dividing chain and its outlying ranges.

To establish land communication between the settled provinces of Nelson, Canterbury, and Otago was a first necessity if stock were to be transferred from one district to another. As

early as 1856, two settlers, G. H. Brown and G. Dupper, found an easy route through the range separating Nelson from Canterbury, riding by way of the Wairau Gorge and Lake Tennyson. In similar fashion, a Canterbury settler, W. H. Valpy, showed in 1852 that, in spite of the broad rivers and the absence of bridges, it was possible to drive stock southwards along the coast to Otago. He travelled southwards to Dunedin in twelve days, fording the rivers where that was possible and using *mohikis* where necessary.

As the Canterbury settlers again occupied the great fertile plains, it became necessary for those who sought fresh pasture-lands to move into the hill country of the west. Stout-hearted adventurers, like Acland and Tripp, began to penetrate the outlying ranges and establish their sheep farms where suitable country could be found. By 1856 settlers had already penetrated to the famous Mackenzie country which a notorious sheep stealer, of that name, had first discovered. The main ridge of the Southern Alps towered above, barring the way to the west.

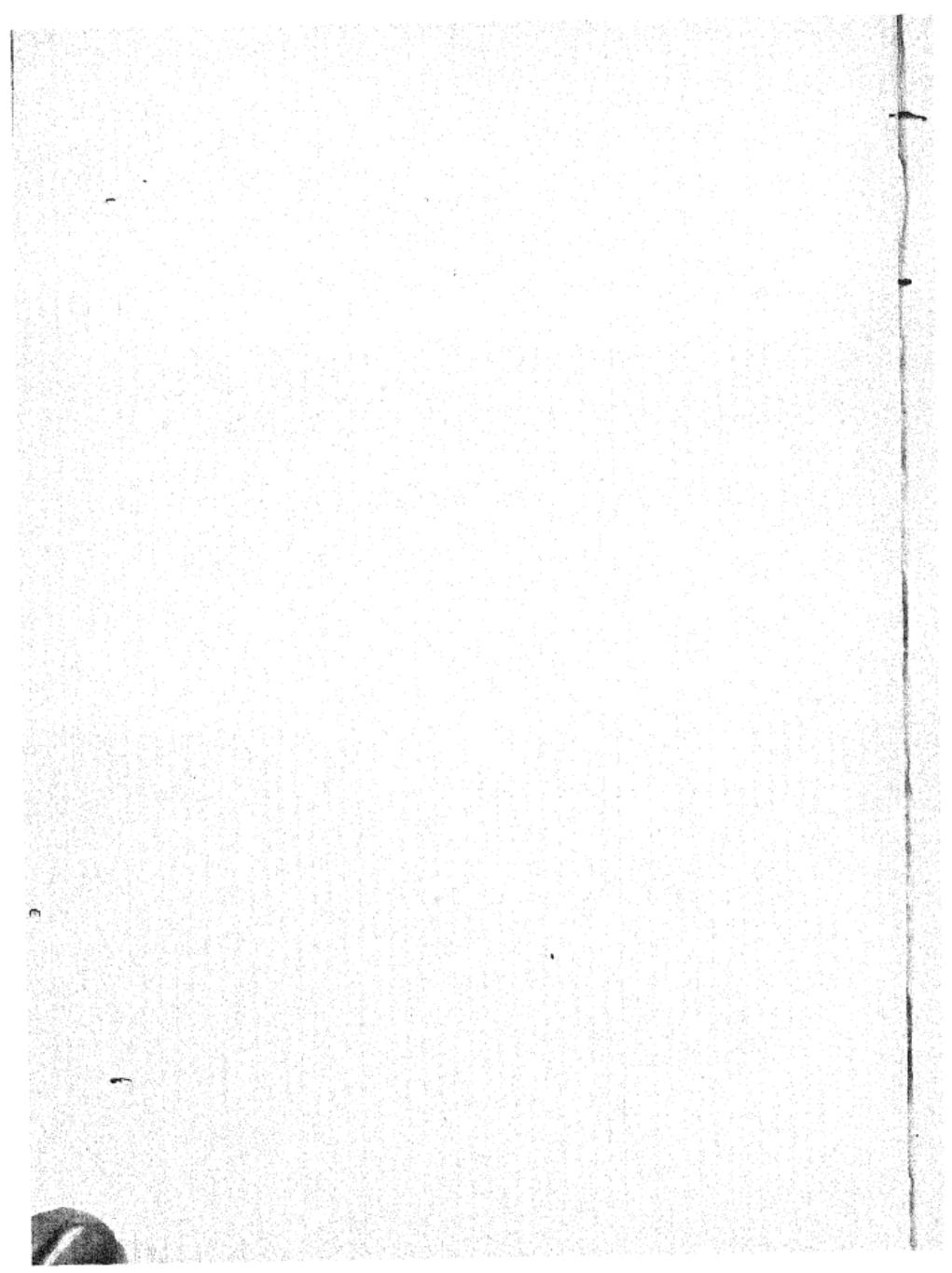
Those who entered this hill country found progress greatly impeded by the dense growth of plants with bayonet-like leaves. Sir Julius Haast, for example, in writing of his exploration of 1861-2, noted that the growth of "wild Irishmen" and speargrass became more and more vigorous as one left the Canterbury plain and entered the uplands. At the headwaters of the Waitaki, near the Godley River, he encountered



New Zealand Government Full-Color Photo.

ROCK FORMATION, FUNAKAIKI, WEST COAST, SOUTH ISLAND

1977



dense thickets composed of large specimens of the "wild Irishmen". Some of these were from 16 to 18 feet high and over 2 feet in diameter. These with the gigantic "Spaniard" or bayonet-grass formed frequently an almost impenetrable barrier. When the traveller was compelled to make his way forward, both man and beast were severely punished, and sometimes the way proved impassable. Thus Haast, as he approached the region of the Tasman glacier, found "such an impenetrable thicket of wild Irishmen and Spaniards that, after more than an hour's battling with the terrific vegetation to gain access to the glacier, we had at last to give up the attempt with our clothes torn and hands and faces covered with blood."

The experience of the first settlers on the plains, however, had shown that, by burning, both these plants could be exterminated, good pasture for sheep taking their place. By systematic burning, therefore, the hill farmer gradually cleared the country and both "Irishmen" and "Spaniards" practically disappeared from the upland sheep-runs.

In the back country of Otago and Southland lie the western mountain ranges and the great lakes. Beyond the mountains is a thickly wooded district in great part yet unexplored, the coast of which is bounded by fiords which remain as vast natural sanctuaries. The first survey of the upland regions of Otago was undertaken by J. Turnbull Thomson, Chief Surveyor of Otago

(Chief Surveyor, 1876-9), whose successor James M'Kerrow (Surveyor General, 1879-81) carried on his work. In 1856 the Dunedin settlement had been founded for eight years and the colonists had begun to feel the need for expansion. To find fresh lands and survey the newly explored territory so that it might be quickly settled, was the task undertaken by Thomson.

Thomson had a long and varied experience behind him. He had practised his profession in India from 1838 to 1855, and, leaving that country for the sake of his health, had been induced in 1856 to sail from England for New Zealand. After a stormy passage in a small sailing vessel from Auckland to Dunedin, which occupied more than three weeks, he reached the Otago Province where he had been appointed Chief Surveyor. He found that no person had yet penetrated more than thirty miles inland, and that he was therefore called upon to explore unknown territory. Spending the end of 1856 in an exploration of the eastern coast of Otago and Southland, he started upon his inland journey from Invercargill in the middle of January, 1857, his supplies being carried on packhorses. He explored, surveyed, and mapped the whole territory from the eastern seaboard to the lake district which lies at the base of the western, snow-covered ranges, moving through a country destitute of wood, and intersected by deep and rapid rivers the crossing of which presented his greatest difficulties. The large rivers of the east coast,

the Waitaki, Molyneux, Mataura, and Waiau, were followed to their sources in the lakes and Southern Alps, and the heights of the principal mountains and passes encountered accurately determined.

In 1861-2 and 1863, James M'Kerrow set out to complete Thomson's survey and to push farther into the mountain district of the west. In the course of his explorations M'Kerrow surveyed the great lakes—Wanaka, Hawea, Wakatipu, Te Anau, and Manapouri—and the mountainous country between them. His satisfaction was complete when on the third day of January, 1863, standing on the summit of the mountain which he significantly called Mount Pisgah, he looked towards the west and saw Caswell Sound. He had attained his desire and sighted the West Coast. This survey, which dealt with a territory comprising over four million acres, was of the greatest importance to the squatters in the uplands of Otago, for whom the authorities could now fix the boundaries of their runs.

John Goldie, who accompanied M'Kerrow on these journeys, wrote a journal which shows the difficulties which faced the surveyor in central Otago. Writing, for example, of the work among the great peaks of the Lake district, he said: "I can assure you it was no easy work for us to reach the summit of their rugged peaks. We ascended one this week, the most difficult and dangerous that we have met with. For the first two hundred yards or so we had to creep on our hands and knees if not serpent-like on our bellies, from the

bank of the river till we gained the foot of the mountain, among thick-growing, high overtopping scrub; then we had to scramble up a pile of steep rugged rocks, clinging to some jutting piece of rock, the roots of some scrubby bush, or anything that would favour us with assistance, halting now and again in an eerie swither whether to proceed or return. Then again we would be weltering amongst thick scrub and within the grasp of that plague to man in all New Zealand bush—the Maori lawyers. Maori lawyers are a sort of brier which shoots from its parent stem numerous runners for a considerable distance around it, each runner being armed by a thousand hooks or 'hold him fast' which show no quarter to clothes or skin when once they take hold.

"Again you will find us pulling ourselves up some almost perpendicular rock. Thus ultimately we proceeded from scrub to rock and from scrub to rock till we gained more open ground, where we were able to walk half bent to the top. The top gained and three or four hours spent there, we commenced our descent, which proved a shade more difficult to us than the ascending was. However, after no small share of scrambling and tumbling we reached the bed of the river, thankful to be hale in life and limb though not in clothes or skin. Mr. M'Kerrow fell from a rock several feet high but fortunately, after a little faintness was got over, he felt himself very little hurt. Mr. M'Kerrow has christened this mountain the Giant's Staircase."

Later Goldie tells of the attempt made by M'Kerrow and himself to reach the West Coast after having surveyed Lake Te Anau. "Upon New Year's Day, 1863," he writes, "Mr. M'Kerrow and I were pushing our way from the middle arm of the lake towards the West Coast of Otago, in the high hopes of being the first who were able to say that they had crossed the island, but alas for the hope of man. After spending five days in the attempt, all of which were most disagreeably wet, and if not teeming their torrents of rain the mountains would be so closely hid among a dense fog that we were detained till we found that our provisions were getting short, we were compelled to make our return after reaching so close upon our objective as to receive a view down Caswell Sound upon the western ocean. Thus so far disappointed we had to make our return; still I believe we are the first who have penetrated so far as to receive a sight of it."

When, in February, 1863, they reached Lake Wakatipu, they found that at the point on the lake where Mr. Rees's quiet homestead had stood, the town of Queenstown was fast arising—as yet a canvas town, while on the slopes of Ben Lomond nearby could be seen numerous individuals bending under their heavy swags, while others led pack-horses up the mountain side or along the side of the lake. Gold had been discovered here and a gold rush was in progress. "Last year, on our first journey," comments Goldie, "while we crossed and recrossed these streams and travelled

over the beautiful flats through which they flow ere they join the Kawarau River, there were no living things to attract our attention; not a sound, not even the ba-ba of a grazing sheep disturbed our ears. Now, the hundreds who daily traverse them and some of the adjoining mountains show how soon the once impenetrable and unknown mountains and wilds of a country can be tamed and travelled over by man when found to possess the riches of the golden ore."

Lake Wakatipu, which had thus suddenly become the scene of so much activity, had been known to various settlers from 1853 onwards. In June, 1859, Donald Hay, a pioneer settler, reached the shores of the lake, and, greatly daring, set out on a *mohiki* to explore part of its shores. In the beginning of the next year there arrived two sheep-farmers, W. G. Rees and Von Tunzelmann, who determined to settle in the district, and in a whaleboat carefully explored the lake. They lived in isolation until the gold-seekers came to disturb their solitude.

In 1862 Dr. (afterwards Sir James) Hector began a series of expeditions to the west coast of Otago which did much to explain the topographical features and geological structure of the country lying between the great lakes and the coast. His efforts to find a practicable route from the coast across the ranges to the lakes met with success in 1863. In May of that year he sailed from Dunedin in a small schooner-rigged yacht, the *Matilda Hayes*, of twenty tons, to explore the

West Coast sounds. Preservation Inlet, Chalky Inlet, Dusky Sound, and the inlets to the north were carefully surveyed, observations being made with regard to the geological structure and mineral resources of the country. After examining the ancient Maori *tangiwai* quarry at Anita Bay, Milford Sound, Hector finally reached Martin's Bay in September. Here he found an old Maori chief, named Tutoko, and his two daughters, Sara and May, the last survivors apparently of the once powerful Ngatimamoe tribe. Mount Tutoko, one of the outstanding peaks of Otago, was named by Hector after the old chief, while in honour of his daughters the hills to the north of the Kotuku River were called the Sarah Hills, those to the south the Mary Hills.

Leaving the *Matilda Hayes* at Martin's Bay, Hector, with three companions, traced the Kotuku River, of which he was the discoverer, to its source in a lake which he called Lake Kakapo, a name a year or two later changed, somewhat unwarrantably, by J. T. Thomson to Lake M'Kerrow. This beautiful fiord-like lake is ten miles in length by one to three miles in width. He crowned these discoveries by proceeding from the lake up the Hollyford until he came upon the Greenstone Pass, which led him across the divide to Lake Wakatipu and thus made known an easy route from the lakes to the coast.

After crossing the Greenstone Pass Hector was greatly aided by some pioneer settlers, with whom the exploration of the great mountain and lake

district of western Otago had become a veritable passion. Von Tunzelmann, Rees, Hutchinson, M'Kellar, and Gun, with many pioneers whose deeds remain unrecorded, all played a glorious part in the task of wresting from nature the secrets which lay hidden amid the wild beauty of the mountains, lakes, and fiords of south-western New Zealand.

Sir James Hector, before his arrival in Otago in 1861, had already distinguished himself as a geologist and an explorer. A graduate in medicine of Edinburgh, he had from 1857 to 1860 acted as surgeon and geologist for the Royal Commission which, under Captain Palliser, delineated the boundary between the United States and Canada across the Rocky Mountains. To commemorate the great part he played in Western Canada as an explorer and geologist, the Canadian Government, after his death, erected a striking monument at the highest point of the Rocky Mountains crossed by the Canadian Pacific Railway. His travels in Canada well fitted him for the pioneering work which he afterwards undertook in New Zealand, first as Provincial Geologist of Otago and, after 1865, as Director of the first Geological Survey of the Dominion. He was an able geologist and a capable administrator. He laid the foundation upon which the modern New Zealand geologist must build, and, as an explorer, well deserves a place in the distinguished company of such men as Dieffenbach, Brunner, Hochstetter, and M'Kerrow.

CHAPTER VI

Gold-seekers and Road-builders

Nothing did so much to force on the work of exploration in New Zealand as the discovery of gold in various parts of the country. Practicable routes to the goldfields had to be found and surveyed in order that necessary roads might be made. The search for routes across mountains and down river valleys inevitably led to great additions to the existing knowledge of the country, while the reports brought in from time to time by the wandering gold prospector gave a great stimulus to the work of the scientific surveyor and explorer by whom these reports were investigated.

The first discoveries of gold in New Zealand were made in October, 1852, on the shores of the Hauraki Gulf. Miners hastened to the Coromandel Peninsula and the Thames, to the dismay of the Maoris on whose lands the goldfields were situated. The natives were placated for a time, however, by the assurance of the Government that they would be paid by the miners for the permission to seek for gold on their territory. The Hauraki Gulf diggings, ultimately the most

important in New Zealand, proved at first much less profitable than had been hoped, and this, combined with the facts that important discoveries of gold were made in the South Island while the Maoris of the North Island became increasingly troublesome as they gradually adopted the attitude of hostility towards the *pakeha* which ultimately led to the outbreak of war, caused the northern fields to be almost deserted.

In 1853 gold-miners began work at Collingwood in the eastern part of Nelson Province, and the industry there had already attained considerable dimensions when in 1859 John Rochfort, a surveyor, announced that he had found a gold-field on the West Coast, on the Buller River. Rochfort had already distinguished himself as a daring explorer in two expeditions. He had first crossed from Port Cooper to the West Coast, ascending the Hurunui to the headwaters of the Taramakau, then crossing Lake Brunner and proceeding down the Arnold River till he reached the Grey, which brought him to the coast. On that occasion he had been rescued by some Maoris in a state of extreme exhaustion through starvation and exposure. His second expedition, which was to prove so momentous for the gold-miner, was directed to a thorough survey of the Buller and the country near it. The first sight of gold, at a point on the river about twenty-five miles from the sea, almost ended the work of exploration. It says much, indeed, for Rochfort's powers of discipline and for his own sense of duty that the

whole party did not abandon their service and proceed to gather the wealth which lay before them. Rochfort's entry in his journal dismisses the incident in curiously terse fashion. "The royal mineral was lying on the edge of the river," he writes, "glistening in the sun and in such quantity as induced rather a mutinous spirit, my hands having a greater preference for the golden prospects before them than the sterner duties of surveying." He does not disclose the means taken to compel a resumption of the journey.

The report that gold was to be found on the Buller caused the greater number of those who were at work in the Collingwood district to abandon that field for the West Coast, in spite of the difficulties and dangers which travel in that inhospitable region entailed. Many fell by the way, but their comrades pressed forward to find that the banks of the Buller and the beaches at its mouth were rich in gold. Thousands of miners crossed to the West Coast, but they had scarcely had time to investigate the gold resources of that region before the report that rich finds of the precious metal had been made in the Otago Province caused the majority of these eager spirits to make their way with all haste to the new fields.

That gold deposits existed at various points in Otago had been known to the authorities since about 1853, but no systematic search for the metal was made until in March, 1861, a party of road-makers at work in the Lindis district, lying between the Upper Waitaki plains and the Clutha,

discovered gold of fine quality. A gold rush thereupon set in which quickly ended when it was realized that the new field was a small one. The disappointed miners, however, had scarcely returned to the township which then formed Dunedin before their enthusiasm was again raised by the announcement, in June, 1861, by Gabriel Reed that, while prospecting in the valleys of the Waitahuna and Tuapeka rivers, some forty miles to the south-west of Dunedin, he had discovered at many places "prospects which would hold out a certainty that men with proper tools would be munificently remunerated". At one place, working with only a tin dish and a butcher's knife, he had collected about seven ounces of gold in ten hours.

A rush took place immediately to the field, which was called Gabriel's Gully in honour of its discoverer, and which lay near the present township of Lawrence. The season was winter, which strikes with biting cold in the interior of Otago; the land was bare and cheerless, tussock-covered or dreary plain and hill, without wood or other fuel. All provisions had to be brought from Dunedin through a country where the roads had yet to be made. No thought of hardship, however, daunted the gold-seekers. As it became established that rich deposits of gold lay in those wind-swept uplands, eager prospectors arrived not only from all parts of the North and South Islands of New Zealand but from the Australian Colonies. Within less than a year the population of Dunedin had more than doubled. The merchants of that town

gained more from the gold discoveries than the great majority of miners.

In August, 1862, further gold discoveries on the banks of the headwaters of the Clutha and of its tributary the Kawarau sent a steady stream of eager prospectors forward to the distant upper regions of central Otago. Miners penetrated to the remote valleys of the almost inaccessible mountain ranges around Lake Wakatipu, and were restrained from venturing still farther only by the great difficulty of procuring supplies. Those who were satisfied with their claims settled to steady work. From the western base of the Dunstan Mountains to the banks of the Clutha and the Kawarau and the shores of Lake Wakatipu lay one continuous series of gold-workings.

In their enthusiasm the prospectors revealed the secrets of many regions which they for the first time explored. The rugged mountains of that district, some of which tower upwards to a height of 7000 feet, did not deter them in their search, in spite of their rugged sides and snow-clad summits. Many were richly rewarded for their daring; others found little, but had their courage and enthusiasm maintained by the knowledge of their comrades' good fortune. The Otago fields as a whole yielded rich results; it is estimated that by 1864 about 10,000 men were actually engaged in gold-mining. These miners in the first three years and nine months after Gabriel Reed's discoveries found gold worth over seven

discovered gold of fine quality. A gold rush thereupon set in which quickly ended when it was realized that the new field was a small one. The disappointed miners, however, had scarcely returned to the township which then formed Dunedin before their enthusiasm was again raised by the announcement, in June, 1861, by Gabriel Reed that, while prospecting in the valleys of the Waitahuna and Tuapeka rivers, some forty miles to the south-west of Dunedin, he had discovered at many places "prospects which would hold out a certainty that men with proper tools would be munificently remunerated". At one place, working with only a tin dish and a butcher's knife, he had collected about seven ounces of gold in ten hours.

A rush took place immediately to the field, which was called Gabriel's Gully in honour of its discoverer, and which lay near the present township of Lawrence. The season was winter, which strikes with biting cold in the interior of Otago; the land was bare and cheerless, tussock-covered or dreary plain and hill, without wood or other fuel. All provisions had to be brought from Dunedin through a country where the roads had yet to be made. No thought of hardship, however, daunted the gold-seekers. As it became established that rich deposits of gold lay in those wind-swept uplands, eager prospectors arrived not only from all parts of the North and South Islands of New Zealand but from the Australian Colonies. Within less than a year the population of Dunedin had more than doubled. The merchants of that town

gained more from the gold discoveries than the great majority of miners.

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million pounds. The influx of wealth altered the whole outlook of the Otago settlement and hastened its development in a manner undreamt of by the founders of the province.

By the end of 1864, the first enthusiasm of the Otago gold rush had disappeared. Gold discoveries on the West Coast had occurred which sent a stream of eager men across the dangerous passes of the Alps, and down the quick-flowing rivers of the West Coast to the Hokitika district, which became the centre of the West Coast gold-fields. The river valleys of the coast were explored by bands of miners; the Greenstone, Grey, Buller, Arahura, all claimed their adventurers. The Hokitika River became a great trading centre. Hokitika sprang up, as it were, in a night; there innkeepers, storekeepers, bankers worked in an atmosphere of feverish excitement maintained by constant reports of fresh discoveries of gold. Greymouth and Westport sprang to life in similar fashion. The whole region which Heaphy, Fox, Brunner, and Rochfort had explored amid conditions of desperate hardship resounded to the sound of the miner's pick and shovel.

Meanwhile attention had been directed to the northern goldfields, and by the end of 1861 operations had been resumed in the Coromandel Peninsula. The situation was complicated by difficulties with the Maoris, who at first were unwilling to alienate any portion of the tribal lands to the miners. It was owing to the tactful work of the Government officials entrusted with

the purchase of the mining rights and the supervision of goldfields, that the natives gradually veered round and allowed mining operations to proceed without molestation, convinced that they would be fairly compensated for all encroachments on the tribal property.

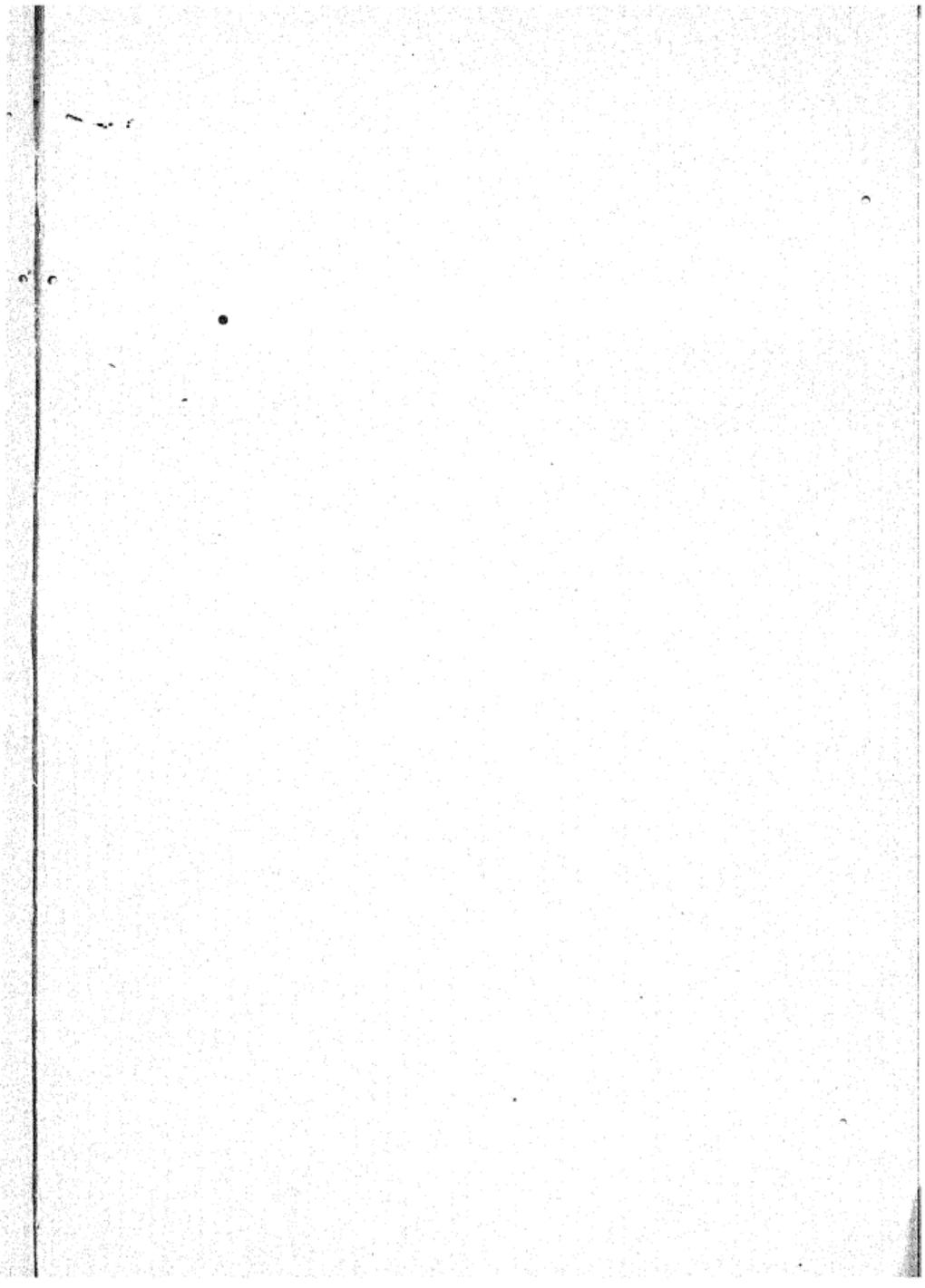
In 1867 the Thames goldfield was opened up, and by 1869 fifteen thousand miners were at work in this region. These northern fields differed from those of the South Island, however, in the fact that they yielded not alluvial gold but gold-bearing quartz. In the south the poor man had gone forth to seek fortune using pick, shovel, and cradle, and had looked only for alluvial gold. To extract their wealth from the quartz reefs of the Thames and Coromandel fields, expensive plant was necessary and this could not be provided without the formation of companies. Without difficulty, however, New Zealand citizens were found to subscribe the capital required; the mines were equipped in scientific fashion and have proved very profitable to their owners. More gold is now produced by the Auckland Province than by any other.

It is impossible to exaggerate the effect of the discovery of gold upon the work of exploration, surveying, and roadmaking, which was already progressing steadily at the beginning of the golden era. The gold-miner found his way to the newly-discovered field as best he could, but, once established in a district which yielded good results, naturally demanded that roads should be immediately provided so that transport might be made

as easy as possible. Moreover, his work poured such wealth into the Treasury as gave the Governments of the various provinces the means to open up communication as the miner desired.

The rush to the West Coast had not yet begun when the natural desire of Edward Dobson, Provincial Engineer of Canterbury from 1854 to 1868, to find an easy route from Canterbury to the west had caused him to conduct a series of explorations in the course of which he discovered a route along the course of the Hurunui to the desired objective. Continuing Dobson's work, Leonard Harper had, in 1857, the distinction of being the first white man to cross the great dividing range from Canterbury to the west. With a party of Maoris and one other white man he crossed from the Lake Sumner region to the Taramakau, and descending that river on a raft, reached the coast, returning to Canterbury subsequently by the same route.

The gold discoveries in the west naturally caused the Canterbury Provincial Government to increase the survey staff, and to devote greater attention to the exploration of likely routes through the ranges, since the Grey and Westland counties were still under the jurisdiction of Canterbury. The danger which had to be faced by those who carried out the preliminary surveys which were necessary, is well illustrated by the tragic fate of George Whitcombe, one of the Canterbury Government surveyors. In April, 1863, along with Jacob Louper, a Swiss, and two attendants, Whitcombe





S. PERCY SMITH, F.R.G.S.

Photo, G. A. Bunn.



SIR JULIUS VON HAAST

left Christchurch with instructions to seek a pass over the ranges in the vicinity of the headwaters of the Rakaia and to push his way to the coast. At an early stage Whitcombe sent his two men back to Christchurch with instructions to bring up provisions and horses to the headwaters of the Taranakau, to which district he intended to return after he had reached the coast. Along with Louper he then set out on the journey to the coast, which he expected to reach in a fortnight. Their supply of biscuits for the time was a ration of only two biscuits each per day, but the explorer thought that he could reasonably expect to meet some Maoris or another of the survey parties.

The first part of the journey was performed without unusual difficulty, although the repeated crossing of torrents and scrambling over rocks was exhausting, especially in view of the scarcity of provisions and the lack of sufficient protection against the coldness of the nights. The explorers found the pass they sought and began the western descent amid adverse weather conditions. Their pass—now called Whitcombe's Pass—was some 4000 feet above sea-level, but even at this height they encountered snow and ice which made travelling difficult, while the rain-sodden trees afforded no supply of firewood to give them comfort at night. Their tent was abandoned in an endeavour to reach the coast more quickly. As they forded the swift mountain torrents, a great part of their biscuits was soaked with water and rendered almost useless for food.

Their road along the boulder-strewn beds of the swift-flowing mountain torrent—now called Whitcombe's River—which they must follow if they would reach the coast, was one of extreme difficulty. Even to keep to the river bed was not always possible. One day they found themselves compelled to avoid a great waterfall by climbing the rocks which were sheer above the river. Faint and exhausted for lack of food, they climbed for twelve hours before they could again follow the normal route along the river bed; the result of the whole day's toil was an advance of 200 yards. Teeming rain, wind-blown sleet, and water-soaked wood made it impossible to light a fire; their nights were passed crouching against each other for warmth in the lee of a rock.

Proceeding thus, the party reached the lower waters of the Hokitika—of which the Whitcombe is a tributary—still compelled to make the river bed their road. The dense bush came down to the water's edge and compelled them to wade down the river, thigh deep. As they neared the sea they found traces of gold in the river banks, and distracted themselves for a few hours from their misery by washing out a few grains. Lack of food, however, compelled them to plod onwards, while the pitiless rain increased their misery. The last handful of wet dough had been consumed, and when they reached the beach they were absolutely without provisions. They had taken seventeen days to reach the coast from the ridge of the western divide to the Hokitika River

mouth, and throughout those days of misery had killed not even a rat. The wood-hens which former explorers had found in such abundance in this region had been destroyed, apparently, by the wild dogs whose tracks were evident in many parts. On the beach, however, they collected sufficient dry wood to allow them to make a fire, and found themselves dry for the first time since they had crossed the pass. Next morning, in spite of starvation, they started in better heart to walk along the beach to the mouth of the Arahura, where they hoped to find the Maoris in their settlement. To their dismay they found the settlement deserted, and the river itself in flood. A search for food gave them only a few potatoes and Maori cabbage.

Lack of food and adverse weather conditions had now reduced Whitcombe to the last stages of emaciation. To save him they must push northwards to the mouth of the Grey, where they would certainly find help. With difficulty they crossed the flooded Arahura and moved on to the Taramakau, which they reached on 6th May. To ford this river was impossible; Whitcombe was utterly unable to adopt Louper's proposal that they should follow the course of the stream into the bush and try to snare some wood-hens. In desperation, Whitcombe, against Louper's advice, determined to attempt the crossing in two native canoes which they had discovered. Lashing the canoes together, they pushed out into the stream. The frail boats could not face the current

and were immediately swamped. Whitcombe struck out for the shore, to be swept by the current towards the bar and overwhelmed there by the great breakers. Louper clung to the canoes and was carried out to sea, to be dashed finally on the shore a mile to the south of the mouth of the river the travellers had vainly endeavoured to cross. Almost senseless, Louper lay on the beach for a night until revived next day by the sun's rays. Dragging himself painfully along, he found Whitcombe's body near high-water mark, and buried him with sad heart in the sand, marking the grave with some driftwood. By next day he had progressed about three miles up the river bank through the bush, and was about to yield to fate at last when he reached a Maori whare. Treated with the utmost kindness by the Maoris, he gradually recovered sufficient strength to move with them towards a survey party working in the vicinity under the ill-fated Charleton Howitt, with whom he rested until he was able to undertake the journey over the Taramakau Saddle to Christchurch.

Whitcombe, whose body was recovered a year afterwards from its resting-place on the Hokitika beach and conveyed to the cemetery at Greymouth, was the first of the Canterbury surveyors to fall a victim to the perils of his calling. Unfortunately other surveyors quickly met a similar fate. Charleton Howitt had by 1863 acquired a considerable reputation as a surveyor and explorer in the service of the Canterbury Government.

The last duty assigned to him was to cut a horse track over the mountains separating Canterbury from the West Coast goldfields and coal deposits. With three men he had succeeded in marking out a track leading from the Hurunui Plains across the Taramakau Saddle and down the Taramakau, and had reached the vicinity of Lake Brunner when, to avoid some difficulties, he decided to strike across country to Lake Brunner, carry the track round the shore of the lake and back to the river beyond the obstacle. The party had been at work for six months amid constant rain in difficult bush country, following the courses of the Hurunui and the Taramakau, marking the fords carefully with flags and making the track clear to the pioneer. They had at last reached Lake Brunner and were cutting the track along its border when Howitt and two of his men while endeavouring to cross the lake were drowned. The one survivor of the party, Hammett, who did not witness the accident, became alarmed as the others failed to return to camp. For twenty-three days he wandered on the shores of the lake in a distracted condition, finding on the margin only Howitt's swag with a case which contained his plans and papers. Hunger finally compelled the grief-stricken man to make his way to the mouth of the Grey to report the accident to the surveyors stationed at that point. A search was made in Lake Brunner for the bodies of Howitt and his men, but these were never recovered.

Charles Townshend, another surveyor who was

also engaged in the West Coast survey at this time, met his death by drowning in October of this same ill-fated year, 1863, while crossing the bar of the Grey River in a small boat, accompanied by two others. Arthur Dobson, son of Edward Dobson of Canterbury, narrowly escaped a similar fate in the middle of 1863, when the little schooner *Gypsy* on which he was travelling was wrecked about two miles to the north of the river mouth. Arthur Dobson's work as an explorer is remembered in the name Arthur's Pass given to the pass which he discovered in March, 1864, and along which the main road from Canterbury to Westland is carried through the Otira Gorge. Another member of the Dobson family, George Dobson, took part in many surveys in the West Coast district during the early sixties. While moving down the Grey River at the end of May, 1866, he was met in the bush by the bushrangers who, for a short time, were then the terror of the district, the Burgess-Kelly-Sullivan gang, and was murdered by them.

Another prominent surveyor who did much to make the way plain for the West Coast miner was John S. Browning, who ultimately became Chief Surveyor and Commissioner of Crown Lands in the Nelson Province. In the stirring times of 1864-5 he bore his part in exploring the passes leading from Canterbury to the mining country, and one of the passes then surveyed by him bears his name and is called Browning's Pass. Others, like John Strauchon, who was

later to be Surveyor-General from 1909-12, were engaged at the same time in carrying out the survey of the West Coast to the south of the mining districts in the land of fiords south of Martin's Bay, a rugged forest-covered country where the explorer worked under the most difficult conditions.

The later surveyors who have carried out the trigonometrical and topographical survey of the high mountain country of the South Island have faithfully performed an arduous task, which has frequently involved great risk and which from time to time has claimed its victims. Numerous perils confront the surveyor who, over a considerable stretch of country, must work from stations at an altitude of from 5000 to 7000 feet amid glaciers and snowfields, where landslides and avalanches are common, and where snow-fed rivers rise quickly in flood, cutting off the party in the wilderness from the base camp. The nature of the risks faced by such surveying parties was well illustrated by the disaster which in June, 1885, befell the District Surveyor Frank Stephenson Smith, brother of the distinguished S. Percy Smith, and his assistants F. A. Thompson and L. Paske, while they were employed in the uplands of North Canterbury at the headwaters of the Clarence and Waiau-ua rivers. The party was descending to the Clarence Valley when they were overtaken by a blinding snowstorm. The snow covered all tracks, and soon was blown into great wreaths through which it was almost

impossible for horse and man to proceed. Night came upon them while they were still trying to force a way to the valley. Before midnight the first of their number to succumb, Paske, had died from cold and exhaustion. The situation was saved for the others by one of the party, W. Mitchell, who took with him his horse to the bed of the snow-swollen Clarence River and laboriously rode for about five miles to a sheep station to rouse a rescue party. These arrived too late, however, to save Hugh Thompson, the head chainman, who died on horseback while being carried to safety.

The New Zealand surveyor, therefore, is always on active service, taking it that such risks as those which have been narrated are merely incidental to the practice of his profession. It is well, nevertheless, that men should not forget the perils undertaken by the man who blazed the trail along which others marched to fortune.

The roll of the Pioneers of Empire is a long one, but on that scroll of fame the officers of the New Zealand Survey Department take a place not least in honour.

CHAPTER VII

The Conquest of the Southern Alps

Julius Haast, who died at Christchurch in 1887, at the age of sixty-three, is honoured not only as an explorer who wrote with enthusiasm of the glories of the great mountains and glaciers of the Southern Alps, but also as a diligent collector of moa bones, dug up chiefly at Glenmark, North Canterbury; these he exchanged for other treasures with European and American museums, thus building up the splendid Canterbury museum, which remains as a monument to his foresight and zeal.

Like Hochstetter, his first scientific comrade in New Zealand, Haast was a German. He was born at Bonn on 1st May, 1824, his father being a well-to-do merchant of that town, of which for many years he was Burgomaster. As a young man, Haast studied geology, although he was from the outset attracted rather by field work than by the laboratory, and made no lengthened stay at his college in the pursuit of a knowledge

of scientific theories. He travelled much in Russia, Austria, and Italy, but had not yet found a permanent niche for himself when, in 1858, a German ship-owning firm gave him the task of proceeding to New Zealand to ascertain the nature of the country and report on its possibilities as a home for German emigrants. Thus, as we have seen, he reached Auckland almost simultaneously with Hochstetter, and was attracted by his offer of scientific work. Haast had already come to the conclusion that the state of unrest prevailing at the time among the Maoris made the Colony unsuitable for the moment as a place of emigration. He therefore requested his firm to release him from his engagement and found himself free to begin that work of exploration in New Zealand to which his life was to be devoted.

Upon Hochstetter's departure, Haast was retained by the Provincial Government of Nelson to conduct a geological expedition to the western and southern regions of the Province, following the Buller route to the West Coast where Brunner had long before gained distinction. Recent discoveries of coal and gold in the valleys of the western rivers now gave practical as well as scientific interest to exploration in these regions, and the Government gave Haast the task of finding a practicable route from Nelson to the West Coast. He had no such difficulties to encounter, however, as had been faced by the pioneer explorers. The discovery of gold had placed the provinces of the South Island in a

good financial position, with the result that Nelson, Canterbury, and Otago had pushed pack-horse tracks, usually well-graded, into the uttermost valleys and mountain passes. When Haast, therefore, followed Brunner's trail, the Nelson Provincial Government had already blazed a passable track from Tophouse, down the Buller, to the point on the West Coast where Westport now stands.

Setting out in the beginning of January, 1860, with James Burnett, a surveyor who had been engaged by the Provincial Government to act as topographical assistant, three other Europeans, and two Maoris, the explorer made his way to the Buller Valley by way of Lakes Rotoiti and Rotoroa and the Tutaki River, carefully surveying the ground and making a topographical map as he proceeded. Mount Murchison was named after the great English geologist, Sir Roderick Murchison, Mount Owen in honour of the renowned English palaeontologist, Professor Richard Owen. Haast found at an early stage that the earlier explorers had in no wise exaggerated the difficulties of a journey through the wilds of Nelson. The expedition met with weather of the worst description; a succession of rain- and hail-storms made them almost despair of making progress. The swollen rivers, along and through which lay their route, were forded with the utmost difficulty. Night after night the surveyors lay down in sodden garments in an attempt to snatch a fitful sleep, beside a fire of wood so wet that it was kept

alight with difficulty and almost smothered the party in smoke. After one day of special hardship Haast—a stout, heavy-built man—wrote in his journal: "I must confess that I felt very tired after this day's journey, not having been accustomed to carry a load of seventy pounds' weight on my back; it almost broke me down and I had to summon all my energies in order not to remain behind. Exploring in other countries, where one can make use of horses and other beasts of burden, is comparatively easy, and there is little fatigue in pursuing scientific investigations during temporary halts of the party and in completing notes and journals while they are resting at night." Wet, cold, frequently hungry, relying for provisions on unreliable supplies of eels and wekas, the explorer with dogged persistence kept to his task, and ultimately rendered such a report to his Government as bears no mark of the terrible conditions under which the scientist collected his data.

The worst part of the journey came when the expedition, having reached the coast, took to the sea-beach route whose difficulties had proved almost too great for Brunner and Heaphy, and were not willingly experienced even by the daring Maori war parties. The explorers had encountered many dangers. Some of their number had narrowly escaped drowning on several occasions in the flooded rivers; while investigating the coal-seams of the Grey, Haast himself with some others had escaped by a veritable miracle from being over-

whelmed by a sudden fall of undermined rock. But all dangers hitherto encountered faded into insignificance in their minds in comparison with the perils of the path by way of the dreaded cliffs which tried the stoutest hearts among them. "Our route now continued," wrote Haast, when describing this portion of the journey, "over granite cliffs, with almost vertical sides, the ledges of which were hardly wide enough for our footing. Over these we advanced slowly, and in some places we were compelled by the steepness of the cliffs to pass round them upon rocks lying in the surf, placed at unequal distances and of unequal height, to get over which we had to wait for a receding wave, and then jump as fast as possible. During this process we were occasionally caught and wetted through, only saving ourselves by holding fast to the rocks whilst the water rushed to and fro, the effort requiring our entire strength. All my party, excepting myself, wore *pereiras*, or Maori sandals. I was unable to do so, as my foot was still painful as the result of an accident, and my boots being less fitted for such work, I had to be doubly careful. This part of the road, from Taura-te-Weka to Kaurangi Point, is called by the Maoris Taupari-Kaka, and is much dreaded by them."

Not till the end of August did the expedition again come into touch with settlements on the outskirts of civilization. This memorable exploration, as a result of which Haast contributed a valuable addition to the existing knowledge of

the region which he had traversed, occupied a period of eight months.

Immediately upon his return to Nelson, Haast was offered and accepted the appointment of Provincial Geologist to the Canterbury Government, and thus in February, 1861, commenced a series of explorations in the back country of the province in the heart of the great dividing range. Along with Dr. Sinclair, who accompanied him as a botanist, he explored in 1861 the headwaters of the Rangitata, Ashburton, and Rakaia, moving amid "Alpine regions of imposing beauty and grandeur", and penetrating to the glaciers of the Tyndall Range, whose existence had not before been reported.

In these upland regions of the Rangitata lay the sheep station of the famous Samuel Butler, the author of *Erewhon*, which he had called Mesopotamia. Whilst Dr. Sinclair, with an attendant, was returning to the Butler homestead for provisions, he was unfortunately drowned while crossing one of the main streams of the Rangitata. "We brought the body of my lamented friend to Mesopotamia;" writes Haast, "near the banks of the river, just where it emerges from the Alps, with their perpetual snowfields glistening in the sun, amidst *Veronicas* and *Senecios*, and covered with *Celmisia*s and *Gentians*, there lies his lonely grave. With almost juvenile alacrity he had climbed and searched the mountain sides, showing that, notwithstanding his advanced age, his love for his cherished science had supplied him with

strength for his pursuits, until at last, overrating his powers, and not sufficiently aware of the treacherous nature of alpine torrents, he fell a victim to his zeal. Great and deep was my sorrow, and with a saddened heart I had to continue alone the work upon which we had set out together."

The latter part of 1861 was spent by Haast in a botanical and geological expedition in the region of the Malvern Hills and Mount Torless, where he was delighted to collect many new flowering alpine plants. In the end of January, 1862, along with Arthur Dobson, who assisted him in topographical work, Haast proceeded to the headwaters of the Waitaki and made an extensive survey of the districts around Lakes Tekapo, Pukaki, and Ohau, whence flow the three streams which, draining the Mackenzie plains, unite to form the Waitaki. Here Haast was in the very centre of the Southern Alps, which he pronounced worthy rivals in grandeur and beauty of their European namesakes. The mountain stream flowing into the head of Lake Tekapo he named the Godley, in honour of the founder of Canterbury Province. Ascending this stream the explorers entered a scene of unsurpassed splendour. "Snowfields with glaciers of the second order descending from them covered the flanks of the wild serrated peaks on both sides," he wrote, "from which, in every direction, high and picturesque waterfalls issued, often hanging on the rocky precipices like so many ribbons of floating silver, before they plunged into their

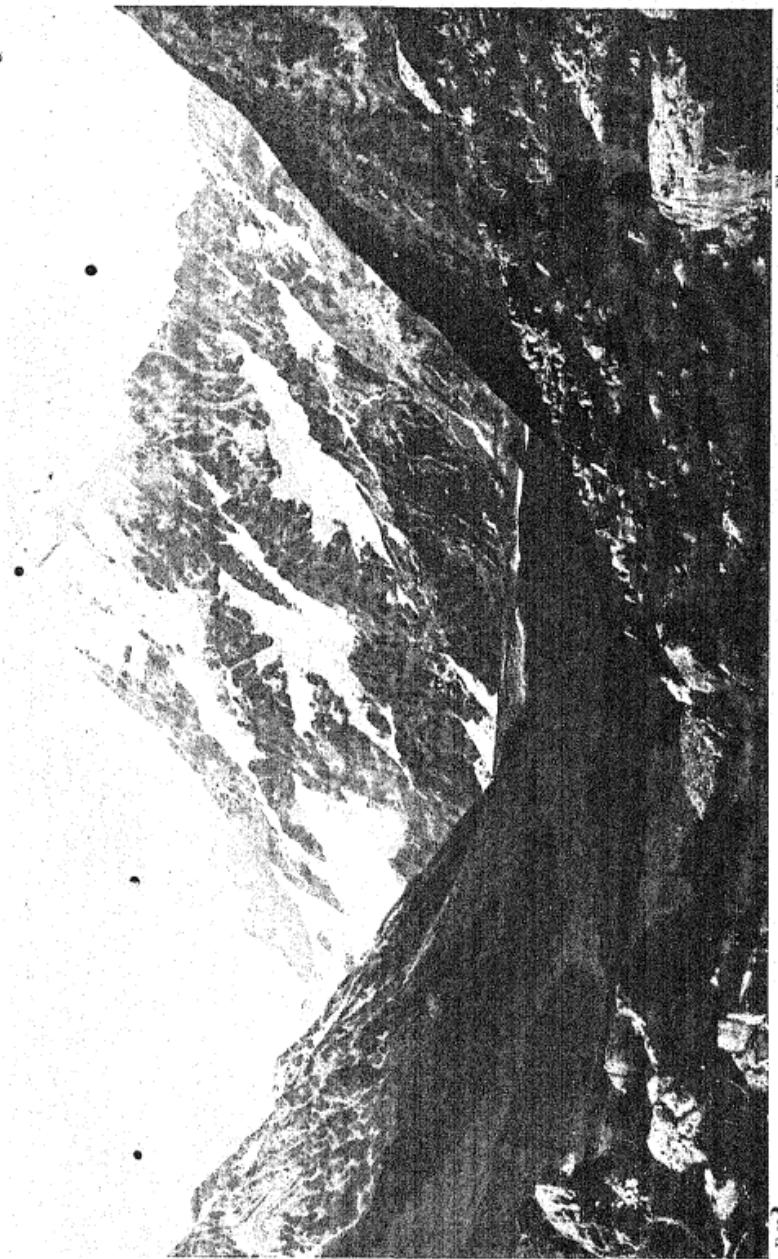
dark gorges, or fell into the river-bed with one great bound. The beautiful sub-alpine vegetation, growing in all luxuriance in such localities, with its various forms and the rich tints of the foliage, added another charm to the grand landscape around us." Since none had expected to find in New Zealand alpine scenery on such a "grand scale, the panorama which unfolded itself from the great Godley and Classen glaciers astounded every member of the party.

After visiting the Faraday and Huxley glaciers, the party then proceeded to the upper valley of the Tasman River. Here they gazed with wonder upon the majestic forms of Mount Cook, Mount Haidinger, and many other wild craggy peaks covered with snow and ice, their summits gilded by the last rays of the sun, and experienced a moment of ecstasy never to be forgotten. "The magnificent pyramid of Mount Cook or A-orangi stood high above all, towering into the sky," writes Haast. "As far as the eye could reach, everywhere snow and ice and rock appeared around us, and in such gigantic proportions that I sometimes thought I was dreaming, and instead of being in New Zealand I found myself in the Arctic or Antarctic mountain regions."

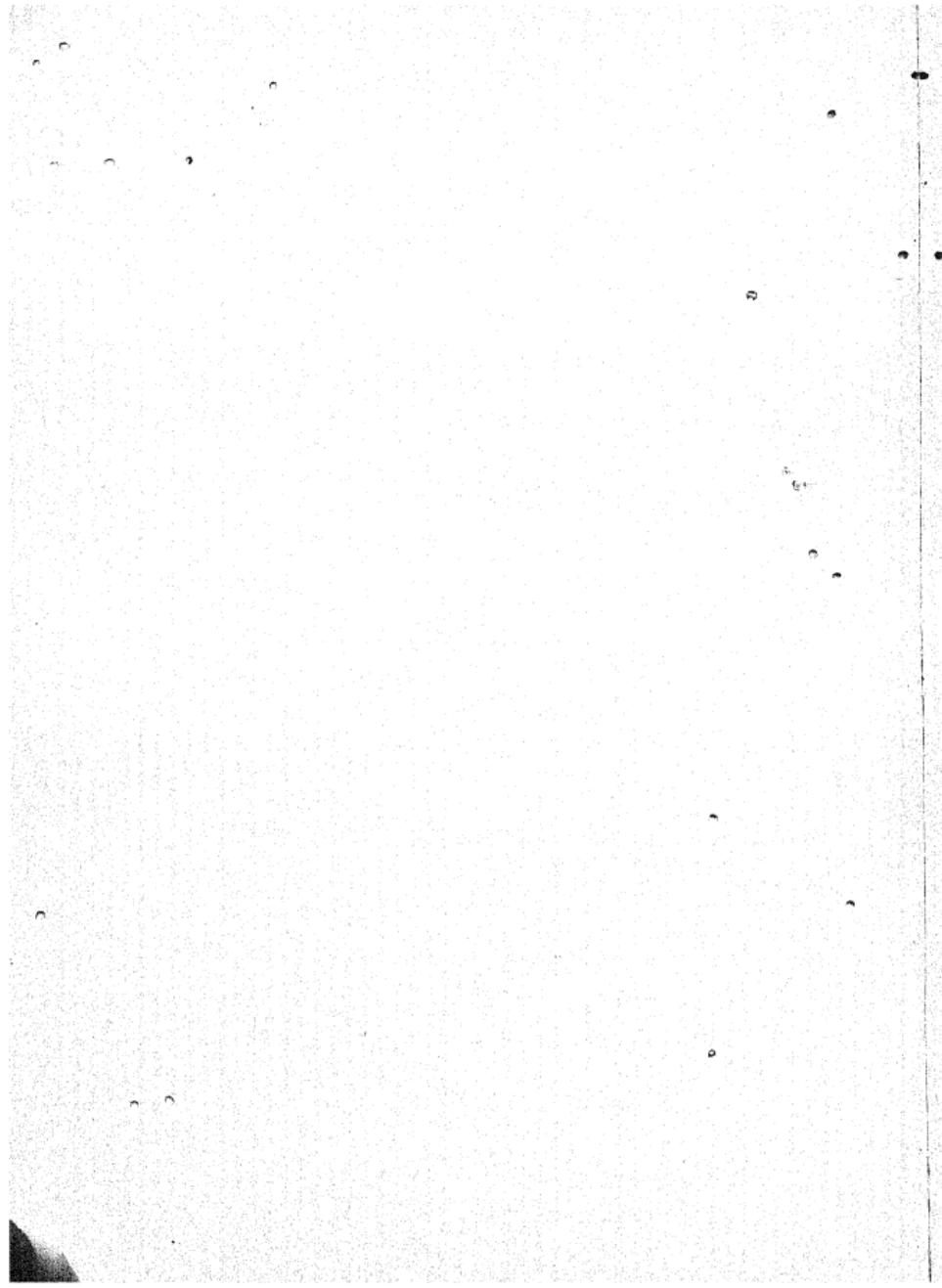
In these Alpine regions Haast found much to interest him not only in the beautiful alpine flowers but also in the animal life. Wood-hens proved a veritable nuisance to their camp owing to their thieving propensities. The kea, a quaint mountain parrot, refused to be driven away.

MOUNT COOK

D 37



Photo, G. G. Webster.



Mountain ducks and Paradise ducks abounded in the lagoons and along the creeks, and these formed a welcome addition to the stock of provisions, while numerous song-birds, including the thrush and bell-bird, were found in the coves on the mountain side. Rivals to the wekas as thieves were great hosts of rats belonging to the large grey Norwegian species, which frequently overran the camp at night. Even on the glacier the explorers found a kind of grasshopper and a black wolf spider. The bluebottle fly pursued them to the greatest heights they attained, while the sandfly was a constant torment, ceasing to trouble only during the hours of night.

Descending to Lake Pukaki the expedition crossed to the smaller Lake Ohau, formed by the rivers Hopkins and Dobson, the latter named by Haast after Edward Dobson, Provincial Engineer of Canterbury. Both these rivers were ascended to the glaciers in which they take their rise, and the expedition then returned to Christchurch by way of the Mackenzie Plains and Burke's Pass.

In the end of 1862 Haast again set out on an expedition which took him up the Waitaki, across the plains drained by the Ahuriri, its tributary, to Lakes Wanaka and Hawea. Accompanied after reaching Lake Wanaka by William Young, Assistant Surveyor, he proceeded along the Makarora, which drains into Wanaka, in search of a pass of whose existence he had heard the West Coast Maoris speak as that by which former generations

had crossed the island. Ascending the valley of the Makarora with considerable difficulty through the dense forest which clothed the mountain side —to follow the bed of the stream was impossible —the explorer pressed towards an opening which he observed in the high ranges, and in a few days had the satisfaction of rediscovering a pass which he pronounced unequalled in a chain of such magnitude as the Southern Alps of New Zealand. Haast's Pass, thus revealed, stands only 1716 feet above sea-level, and 724 feet above Lake Wanaka. It was much used by the ancient Maoris in travelling from Otago to Southland, and was known to the early gold prospectors before Haast's time.

Mount Brewster, which lies near the pass, was ascended and used as a topographical station. The grandeur of the magnificent view of the Alps obtained from the slopes of this mountain deeply impressed Haast. "Lake Wanaka appeared far in the south," he wrote, "its blue mirror-like surface set amongst wild rugged mountains. All around us rose peak above peak, their rocky pinnacles towering in grand majesty above the snow and ice upon their flanks, whilst deep below us, in narrow gorges, we could look upon the foaming waters of the torrents almost at our feet. The whole formed a picture of such wild beauty that it can never be effaced from my memory."

Crossing the pass the expedition reached a stream to which the explorer gave his own name, and which thus reaches the sea on the West Coast

as the Haast River. The valley of this stream proved to be one of the most rugged pieces of New Zealand ground ever traversed by Haast. To keep to the river bed, with its precipitous sides, was impossible. The mountain sides which the explorers were continually compelled to ascend and descend for many hundred feet were frequently covered with huge rocks, between which lay large fissures overgrown with moss and roots often so rotten that the unwary traveller, as they broke under his weight, found himself precipitated into a crevice from which, encumbered with his heavy pack, he could with difficulty extricate himself. To make matters worse it was impossible to find a place sufficiently level for the pitching of a tent. Thus for several days the party was compelled to camp under an enormous overhanging rock, a vertical precipice of 150 feet beside them and nearby a large waterfall, with its deafening roar.

As they reached the lower waters of the river they found themselves compelled to hack their way through dense forest, spending two days in the last six miles of bush which separated them from the sea. Altogether to reach the coast from Lake Wanaka occupied thirty days, although on a good road the distance could be covered easily in four. Being very short of provisions, these discoverers of the Haast Pass route to the coast were compelled to return immediately over the same ground, arriving again at Lake Wanaka in rags and almost shoeless, after an absence of six weeks.

In March, 1865, Haast again set out for the West Coast, travelling on this occasion to the goldfields by way of the pass leading from the headwaters of the Hurunui to those of the Taramakau, the route generally followed by the gold-diggers. The migration from the Otago goldfields to the West Coast had begun in the autumn of 1864, and when Haast set out was in full progress. He thus moved in stirring times, passing all kinds of travellers on the road, some pressing forward, others returning, ragged and half starving. The wagon road ended at the Waitohi Gorge, and the travellers then came to a track which, although already much improved by Government roadmen, was still so difficult and dangerous that few returned by the land route from the goldfields except those who had not sufficient money to pay for steamer transport. As Haast came to the famous Hurunui or Harper's Pass, he found that the difficulties of the way had not been exaggerated. The pass, 3150 feet above sea-level, was crossed by a bridle track which had been rendered almost impassable by the amount of traffic. Sharp stones, roots, and dead timber made progress very slow; the horses sank up to their knees and could only work themselves out with difficulty. The ascent of the eastern side was difficult but that on the western side baffled description. The traveller was compelled to dismount and lead his horse along a steep path which led either over smooth slippery blocks of rock or pools of slush full of roots and large and

small stones. Amid these obstacles the horses picked their trembling way, ever and ever sinking to the girths in a swamp. Haast was now convinced that the famishing disillusioned men whom he had met, full of horror at the recollection of the dangers which they had escaped, had not been guilty of exaggeration. When the track left the pass and reached the Taramakau Valley, fresh dangers arose, since it was necessary frequently to ford the river. With large boulders in the stream and a strong current flowing it was difficult to obtain a firm footing, and at these fords many miserably perished.

As he passed down the river, Haast, well supplied with provisions and stout in heart, found much to admire in the scenery that surrounded him where former explorers, hard beset by weather conditions and unable to find supplies, had seen only a weary forest prison. He remarked the glory of the towering pines, of the black beeches which were sometimes 100 feet high and 7 to 8 feet in diameter, and of the delicate tree ferns. Between the superb vegetation he noted that the black-stemmed creeper, called supple-jack by the colonists, formed often an impenetrable net, while both the ground and the stems of the trees were covered with a luxuriant growth of mosses, lichens, and ferns. The whole was enlivened by numbers of feathered songsters and formed a scene of indescribable beauty.

Near Lake Brunner, Haast left the Taramakau and took to the dreaded bush track, which led

through swamps and over the great tree stems which lay half rotten in them, towards the lake. Pack horses and riding horses had already been sent down the river to await the arrival of the explorers, for no horse could travel in safety along the bush path. Alongside the lake and in the Greenstone Valley the track was in no better condition, and the traveller, carrying his pack of from 30 to 50 pounds weight, pushed forward through swamp and bush with the utmost difficulty. Reaching the mouth of the Taramakau, where he found a little canvas town bustling with life, the pioneer moved towards the Hokitika along the beach which, at the time, was a crowded highway — horsemen and pedestrians, wagons drawn some by horses, others by bullocks, forming a scene of great activity. At the mouths of the Waimea and Arahura were small canvas townships, places of rest for the wayfarer, consisting mainly of stores and public-houses. Hokitika itself had grown within a few months into a busy town where all lived under canvas. The goldfields and recently opened coal-mines of the whole district were inspected, and the party then moved southwards, still following the beach road. Near the mouth of the Wataroa River they had to round the dreaded Abut Head. Here a cliff rises almost perpendicularly several hundred feet from the sea, having at its base a narrow strip of boulder-strewn beach which, at high tide, is almost covered. The travellers reached the point of danger almost too late. "The tide began to rise,"

Haast writes, "covering the lower part of the beach, which consisted mostly of small boulders and sand, and we were obliged to take a higher line, where, from the nature of the huge blocks, we were often compelled to round them by waiting for the retreat of the waves, and then rushing through the water. So we toiled on, now and then caught by a great wave; the feet of the horses slipped between the boulders and were sometimes only extricated with the loss of a shoe; and although the poor animals were bleeding and exhausted, we could not lose a moment, as the tide was rising. So we unpacked them with all haste, and brought them near high-water line, where on examining the ground I had discovered a better track, made by a party of diggers who had preceded us with horses. By filling up the interstices between the large boulders, and cutting through smaller cliffs of silt, they had made it possible to get round the last point before reaching the Wataroa River. Thus I again had an opportunity of observing that the digger, when once bent upon exploring a country, will not be beaten by an obstacle in his way, and that being often made an engineer by necessity, he will find at last his way to the proposed goal without flinching from his self-imposed task." In this manner the point was safely rounded; the explorers were then able to return for the discarded packs, and proceeded to cross the river which lay before them.

Still moving southward the expedition came

to the mouth of the Waiau River which rises in the Francis Joseph glacier, and had a magnificent view of the Southern Alps with the enormous glacier in the near foreground. The stupendous ice masses, with the great mountain chain in the background and, on both sides, a luxuriant vegetation which includes tree ferns, lofty pines, fuchsia bushes, and rata trees, made such a picture as filled all with awe.

From this point Haast retraced his steps to the Hokitika, whence, like those others who had once experienced the dangers of the Harper Saddle and the gorges of the Taramakau, he returned by steamer to Christchurch. His experiences in this journey are of particular value as showing the nature of the difficulties faced by the gold-miners of the sixties in that search for fortune which proved a vain one for the great majority.

In 1876, upon the abolition of the Provinces, Sir Julius Haast gave up his geological work and became Director of the Canterbury Museum. He continued to write, however, and his graphic accounts of the glories of the Southern Alps and their vast snowfields did much to arouse interest in mountaineering in New Zealand, with the result that, in a few years, many enthusiastic alpinists emerged, intent upon the conquest of the great peaks. In 1882 the Rev. Spotswood Green of Dublin, with two Swiss guides, made three attempts on Mount Cook, arriving on the third occasion within 200 feet of the summit. Night

was falling, however, and the party had to descend. They had succeeded in reaching a narrow ledge when darkness fell, pinning them to their precarious position throughout a night of piercing cold, during which they dared not move lest they should fall into the gulf below. Fortunately dawn found all safe and able to descend. Others followed Green in quick succession, but not till Christmas Day, 1894, did a party of three New Zealanders, T. C. Fyfe, G. Graham, and Jack Clark, succeed in reaching the highest pinnacle of the mighty A-o-rafiki. Since that time numerous ascents of Mount Cook and the great mountains in its vicinity have been made—not always, unfortunately, without loss of life—and much has been written concerning their exploits by those who have conquered these monarchs of the Southern Alps.

In New Zealand the mountains of the Mount Cook region have claimed so much attention as to throw other peaks into undeserved obscurity. The Southern Alps, however, extend in one long unbroken chain from Rotoiti in Nelson to the fiord country of Otago, a stretch of some 500 miles broken by only a few low passes. In that great range there stand out many peaks whose conquest is a high achievement. In Otago, for example, the culminating peaks are Mount Aspiring (9960 feet), Mount Earnslaw (9165 feet), and Mount Tutoko (9042 feet). Mount Tutoko, named by Sir James Hector in his memorable journey of 1863, was first ascended in April,

1895, by the famous New Zealand alpinists; Malcolm and Kenneth Ross and W. J. Hodgkins. The ascent of the snow-clad peak was made without much difficulty, but darkness fell upon the party as they descended, and compelled them to spend the night upon a rock platform on the edge of a precipice, with the temperature several degrees below freezing-point—an experience curiously resembling that of Green and his party on Mount Cook.

The first attempt upon Earnslaw was made in March, 1882, by Green, immediately after his conquest of Mount Cook. This expedition failed to reach the summit owing to heavy weather. Various unsuccessful attempts to conquer the mountain were made in succeeding years, but it was not until March, 1890, that the honour of making the first ascent fell to the distinguished guide, Harry Birley.

Mount Franklin, the dominant peak of the Nelson-Marlborough district, was first ascended in March, 1883, by a party of five led by Professor Park of Otago University, who approached the mountain by way of the Wairau Gorge, and the Clarence and Waiau rivers. The party reached permanent snowfields at a height of 6500 feet, and, after climbing for another thousand feet, attained the top of the range, which was found to be a mere razor back, only a few feet wide. Along this ridge the way lay to the summit, 7850 feet above sea-level.

In curious contrast to Haast's account of the

abundance of bird life in the Mount Cook region is Professor Park's comment upon the scarcity of birds in the Mount Franklin district, a fact all the more singular when one remembers that the latter country was a veritable bird sanctuary rarely visited even by miners and prospectors, who thought the chances of finding payable gold in that almost inaccessible region insufficient inducement to meet the difficulties likely to be encountered. Throughout their stay in the district the party saw only a few ducks and black swans. Even the ubiquitous weka proved rare, while of kiwi, kakapo, and kea nothing was either heard or seen.

In January, 1886, Professor Park, along with W. Dunnage, a surveyor's cadet, made from Karioi an ascent of the highest peak of Ruapehu, the greatest mountain mass in the North Island, and had an experience which goes to prove that many New Zealand peaks, besides the giants of the Mount Cook region, provide, on occasions, situations which demand all the mountaineer's nerve and skill. Near the summit, Dunnage had a remarkable escape. While crossing the snow-field he lost his footing and began to slide downwards with ever increasing speed. "His destruction seemed inevitable," wrote Professor Park in recording the incident, "for he was rapidly approaching an enormous crevasse that traversed the whole field, and had particularly attracted our attention a short time before. It was the dangerous description of crevasse well known to

alpine tourists which has one side higher than the other. In this case the drop was on the low side and was about 20 feet. The width of the crevasse at the top was about 15 feet and both sides were corniced; from its concave roof and sides hung innumerable long blue icicles and short projections of ice. Its depth appeared to be many hundreds of feet, extending probably to the bottom of the valley. To this crevasse Dunnage was rapidly sliding and there seemed but small chance of his recovering himself. He was sliding with his back to the snow and his weight started the dry snow, which accelerated his speed, but he had fortunately stuck to his alpenstock which, getting in front of him, ploughed into the ice, so that eventually he was able to swing himself clear of the sliding snow, but none too soon, for, with a few feet more, he would have dashed into the icy chasm below. The distance he slid was about 200 feet." To the Maoris the highest peak of this gigantic volcano was known as Para-te-tai-tonga.

While the mountaineer has thus found much to interest him in the snow-clad peaks of both North and South Island and finds his sport amid the great natural barriers, to surmount which was the laborious task of numerous pioneers, the sterner work of exploration has gone steadily forward. In all weathers surveyors and explorers are still at work in the back country of New Zealand, facing the same difficulties and dangers as their predecessors encountered. To them still comes the thrill

which he must ever feel who stands first on unexplored territory. The survey map of much of the south-west country of the fiords, for example, still bears the magic word "unexplored". Here the officers of the Survey Department move farther into the unknown day by day, their periodic reports attracting little attention save from their superiors.

A tinge of romance surrounds the names of two pioneers in this south-west district, who, but for their discoveries, would have died, as they had lived, unknown. Donald Sutherland lived for many years on Milford Sound, a lonely hermit engaged for the most part in gold prospecting. He had first reached that remote place in 1876 and died there in 1919. During these years he frequently penetrated into the wild country around his dwelling, making his greatest discovery in November, 1880, when he came upon the Sutherland Falls, remarkable for their great height of 1904 feet.

Similar in type to Sutherland was Quinton McKinnon of Te Anau, another Scottish Highlander with whom the exploration of this country of the south-west had become a passion. McKinnon's Pass, which bears his name, was discovered by him in 1888. He had long sought a route across the dividing range from the lake district of Otago and Southland to the West Coast, and was at last successful in finding this pass which leads from the head of Lake Te Anau by way of the famous Milford Track to Milford Sound.

McKinnon's death was as lonely as his life. He was sailing alone in his boat on Te Anau in 1892 when he was drowned.

A small country whose history as a British colony is not yet ninety years old, New Zealand is but building a national tradition and beginning to exert an influence upon the affairs of the great Empire of which she is the youngest Dominion. In spite of her youth, however, the Dominion has already on her roll of fame the names of many who have won renown both in war and peace. As builders of national tradition and examples of those who, moving with unfaltering steps towards the goal, clung to the path of duty, none are more worthy to be honoured as builders of the Dominion and pioneers of Empire than the first explorers of New Zealand who cheerfully faced hardships and dangers that others might follow them along a plain road in safety.

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